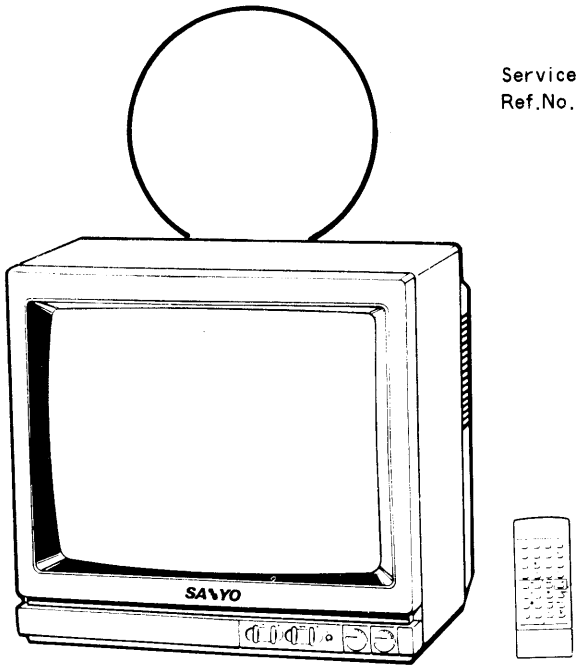
SANYO

(United kingdom)

SERVICE MANUAL Colour Television

Model No. CBP3012



Service
Ref.No. CBP3012-00

PRODUCT CODE
113 026 02

Specifications

Power Supply	AC 240V 50Hz
Power Consumption	42 Watts
Television System	System I
Colour Reception System	PAL
Channel Coverage	UHF: 21~69
Video IF	39.5MHz
Sound IF	33.5MHz
Aerial Input Impedance	75Ω
Picture Tube	34cm Diagonal, 90 Degree
Audio Output	1.5 Watts
Dimensions	362(W)×325(H)×377(D)mm
Weight	10 Kg

● Specifications subject to change without notice.

ORIGINAL VERSION
Chassis Series A3-A14

Give complete "SERVICE REF. NO." for parts order or servicing, it is shown on the rating sheet on the cabinet backcover.

Note

This TV receiver will not work properly in a foreign country where the television transmission system and power source differ from the design specifications. Refer to the specifications for the design specifications.

SK3P244

SAFETY PRECAUTIONS

① An isolation transformer should be connected in the power line between the receiver and the AC line when a service is performed on the primary of the converter transformer of the set.

② Comply with all caution and safety-related notes provided on the cabinet back, inside the cabinet, on the chassis or the picture tube.

③ When replacing a chassis in the cabinet, always be certain that all the protective devices are installed properly, such as, control knobs, adjustment covers or shields, barriers, isolation resistor-capacitor networks etc.

Before returning any television to the customer, the service technician must be sure that it is completely safe to operate without danger of electrical shock.

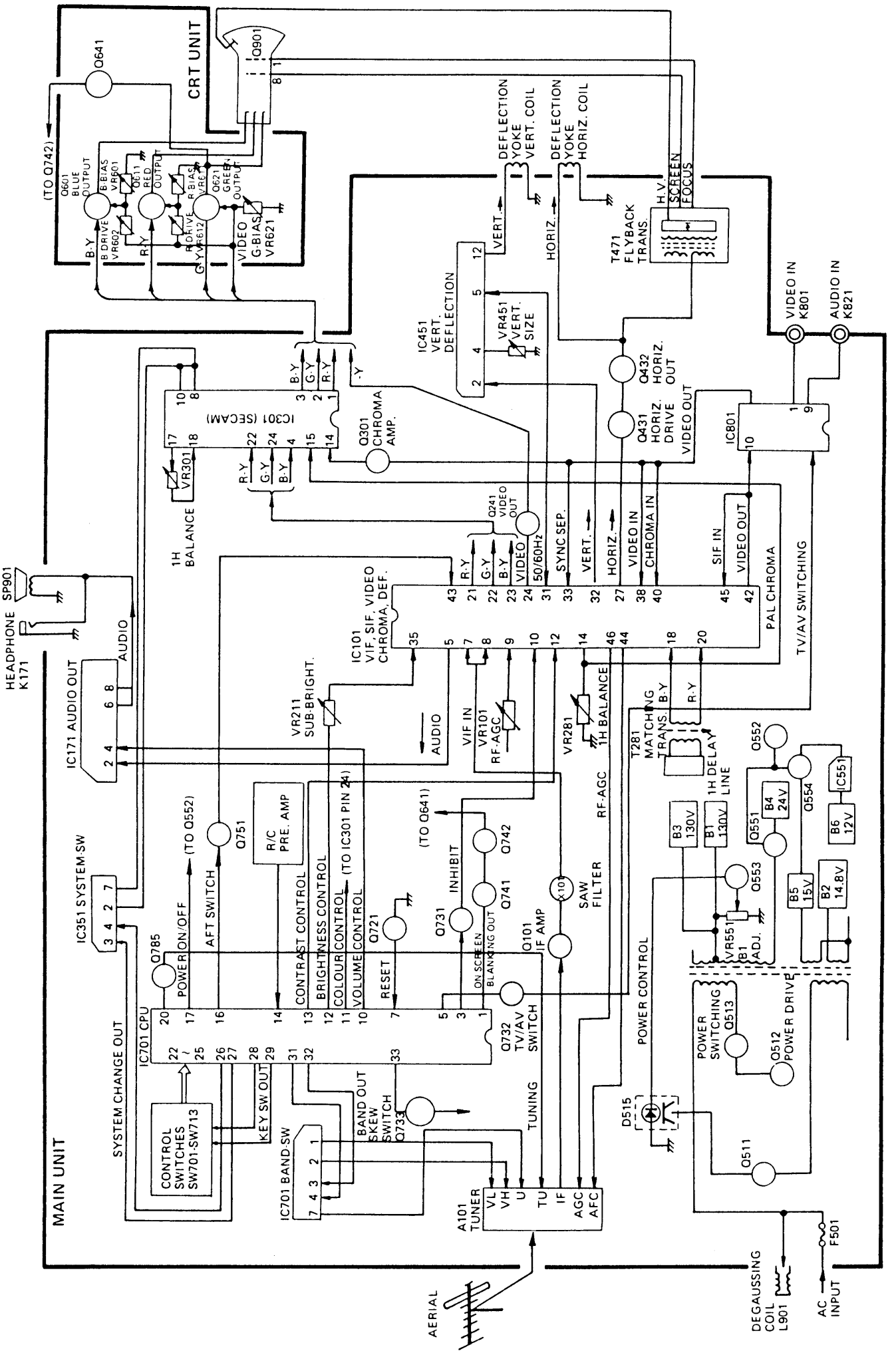
X-RADIATION PRECAUTION

The primary source of X-RADIATION in television receiver is the picture tube. The picture tube is specially constructed to limit X-RADIATION emissions. For continued X-RADIATION protection, the replacement tube must be the same type as the original including suffix letter. Excessive high voltage may produce potentially hazardous X-RADIATION. To avoid such hazards, the high voltage must be maintained within specified limit. Refer to this service manual, high voltage adjustment for specific high voltage limits. If high voltage exceeds specified limits, take necessary corrective action. Carefully follow the instructions for +B1 volt power supply adjustment, and high voltage adjustment to maintain the high voltage within the specified limits.

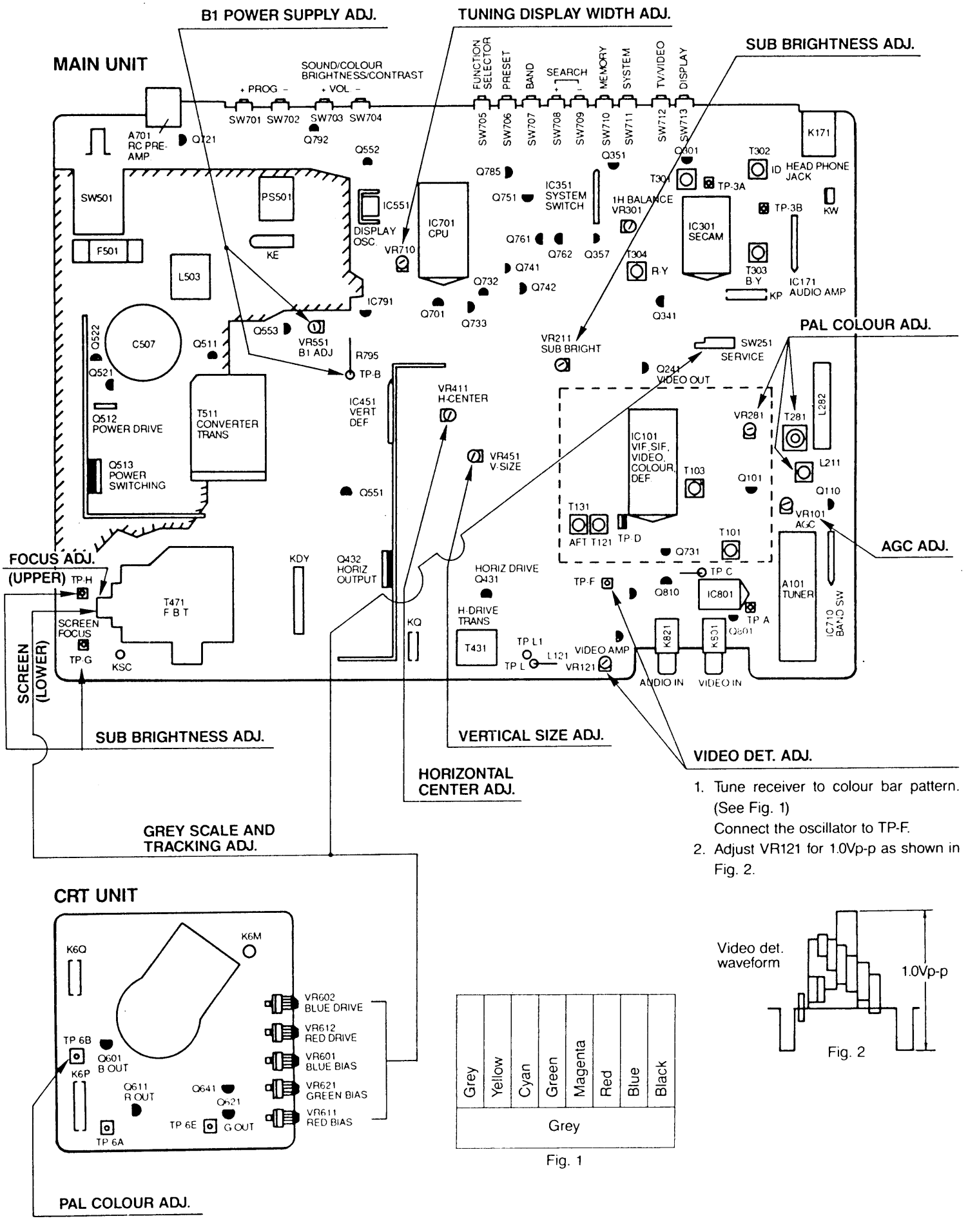
PRODUCT SAFETY NOTICE

Product safety should be considered when a component replacement is made in any area of a receiver. Components indicated by mark ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. It is particularly recommended that only parts designated on the parts list in this manual be used for component replacement designated by mark ⚠ . No deviations from resistance wattage or voltage ratings may be made for replacement items designated by mark ⚠ .

BLOCK DIAGRAM



INSTALLATION AND SERVICE ADJUSTMENT



1. Tune receiver to colour bar pattern. (See Fig. 1)
   Connect the oscillator to TP-F.
2. Adjust VR121 for 1.0Vp-p as shown in Fig. 2.

Grey	Yellow	Cyan	Green	Magenta	Red	Blue	Black
Grey							

Fig. 1

Fig. 2

SERVICE CONTROL ADJUSTMENTS

AGC ADJUSTMENT

① Tune receiver to most clearest station in your area.
Set brightness and contrast to max.
Set colour control to minimum.
② Set the AGC (VR101) to mid-range.
③ Turn AGC control in direction which causes snow to appear, then in the opposite direction until the snow just disappears.

SUB BRIGHTNESS ADJUSTMENT

① Connect a DC meter between "TP-H" (positive lead) and "TP-G" (negative lead) on main unit.
② Receive the circular pattern.
③ Set brightness to maximum and contrast to minimum.
④ Adjust sub brightness control (VR211) for 0.2V.

VERTICAL SIZE ADJUSTMENT

① Tune the receiver to mono-chrome circular pattern.
② Adjust vertical size (VR451) control for full scan.

HORIZONTAL CENTER ADJUSTMENT

① Tune the receiver to mono-chrome circular pattern.
② Set brightness and contrast to maximum.
③ Adjust video phase (VR411) for optimum horizontal center position.

B1 POWER SUPPLY ADJUSTMENT

① Connect DC meter to "TP-B" and GND.
Set the +B1 adjustment (VR551) to mid-range.
② Set brightness and contrast to minimum.
Tune the receiver to an active channel and synchronize picture.
③ Adjust +B1 adjustment control for 130 ± 1.0 V DC.

TUNING DISPLAY WIDTH ADJUSTMENT

① Tune the receiver to mono-chrome circular pattern.
② Set the preset switch (SW706) to on.
Tuning bar is displayed on screen.
③ Adjust VR710 for optimum the tuning bar width.
Set the preset switch to off.

VIDEO DET. ADJUSTMENT

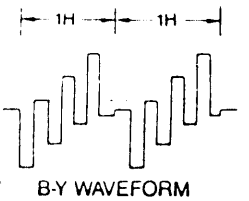
① Tune receiver to colour bar pattern.
Connect the oscillator to TP-F.
② Adjust VR121 for 1.0 V_{P-P}.

GRAY SCALE AND TRACKING ADJUSTMENT

① Tune the receiver to mono-chrome circular pattern.
② Set brightness and contrast to maximum, the colour to minimum.
③ Set the service switch (SW251) to the service side.
④ Set VR602 and VR612 to the mechanical center.
⑤ Set VR601, VR611 and VR621 to the minimum.
⑥ Turn the screen VR for one colour to be just visible.
⑦ Adjust VR601, VR611 and VR621 alternately until a dim white line is produced.
⑧ Set the service switch (SW251) to the normal side.
⑨ Adjust VR602 and VR612 alternately to produce normal black and white picture.
⑩ Check for proper grey scale tracking at all brightness levels.

COLOUR ADJUSTMENT (PAL)

① Tune receiver to colour bar pattern.
Connect the oscillator to TP-6B.
② Set brightness, contrast and colour to maximum.
③ Adjust VR281 and T281 to obtain each 1H waveform for same as shown below.



B-Y WAVEFORM

④ Adjust L211 to obtain proper waveform.

FOCUS ADJUSTMENT

① Adjust focus control for well scanning lines.

HIGH VOLTAGE CHECK

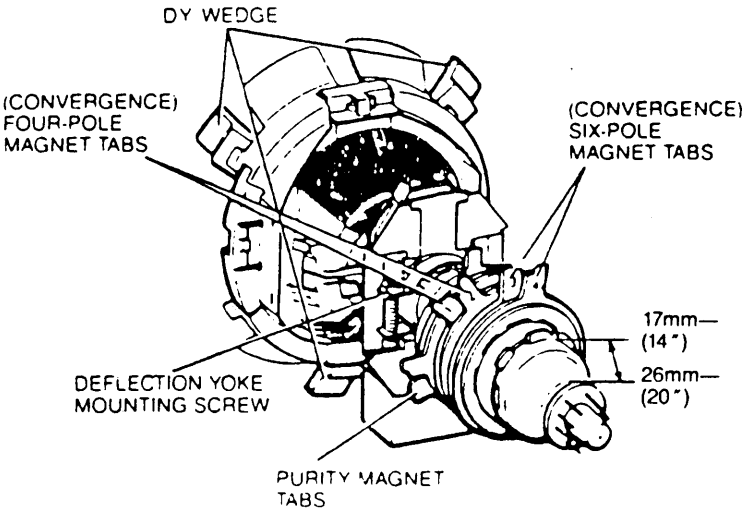
① Tune the receiver to mono-chrome circular pattern.
② Set brightness and contrast to maximum.
③ Connect a high voltage probe to anode lead at CRT.
④ High voltage must measure between 20~22kV.

PURITY AND CONVERGENCE ALIGNMENT

CAUTION: Convergence and Purity have been factory aligned. Do not attempt to tamper with these alignments. However the effects of adjacent receiver components, or replacement of picture tube or deflection yoke may require the need to readjust purity and convergence. If adjustment is required, the adjustments should be made in the following sequence.

PURITY ADJUSTMENT

1. Use a colour (Red, Green and Blue) pattern signal. Receiver should be operated for at least ten minutes.
2. Place the picture tube face east or west and demagnetize the picture tube and receiver using an external degaussing coil.
3. Turn off Red and Blue rasters and provide only Green raster on CRT screen.
4. Loosen the screw holding the Deflection yoke and remove the 3 D.Y. wedges, and slide the Defection yoke fully frontward.
5. Rotate the two purity magnet tabs (widen or narrow the mutual angle made by the two tabs) to centre a vertical green stripe.
   (If the vertical green stripe doesn't obtain. In case, slide the deflection yoke backward).
   Note: Do not move the vertical centre position by adjusting purity magnet.
6. Slowly slide the Detection yoke backward (or frontward) until a uniform green raster is obtained.



Note: Following is 20" only.

If some part of screen is contaminated with other colors (in most cases it will appear of corner of screen), put the Purity correction magnet chip on back of that corner near the detection yoke.
See Figure-A to position the Purity correction magnet chip.
Slide and rotate the Purity correction magnet chip until pure green screen is obtained.
Use necessary chips until uniform green is obtained overall the screen.
Use the tape (or adhesive) to fix the magnet on the picture tube.

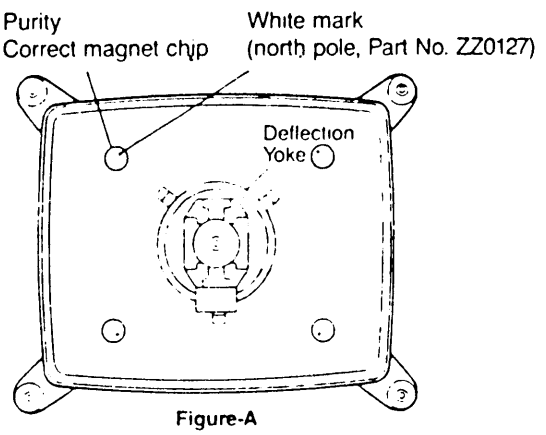
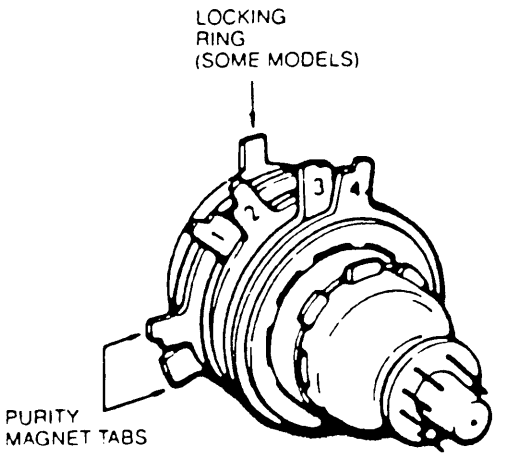


Figure-A

7. Check the purity of the red and blue rasters for uniformity. (Turn up red raster and turn off green and blue rasters. Turn up blue raster and turn off green and red rasters). Readjust the Defection yoke position if necessary until all rasters are pure.
   If part of the screen at each direction (east. west. north or south) is colored, demagnetize the receiver and the picture tube and adjust the Deflection yoke position slightly frontward or backward.
8. Tighten the mounting screw of the Defection yoke and mount D.Y. wedges.

CONVERGENCE ADJUSTMENTS

Before any convergence adjustments are made, purity must be adjusted properly. Connect cross-hatch generator to aerial socket.
Loosen locking ring provided on purity & convergence magnet.
Notice: When adjust the convergence magnets, do not move purity magnets.



PURITY AND CONVERGENCE MAGNETS

CENTER CONVERGENCE

1. Turn off green raster and provide blue and red raster on CRT.
2. To superimpose the red/blue vert. lines spread (or narrow) the angle of magnet tab 1 between tab 2. See Fig.1
3. To superimpose the red/blue horiz. lines rotate the magnet tabs 1 and 2 together (keeping the angle of magnet tabs 1 and 2). See Fig.1
4. Turn up green raster.
5. To superimpose the green and magenta (blue/red) vert. lines, spread (or narrow) the angle of magnet tab 3 between tab 4. See Fig.2
6. To superimpose the green and magenta (blue/red) horiz. lines, rotate the magnet tabs 3 and 4 together (keeping the angle of magnet tabs 3 and 4). See Fig.2
   Now forming while cross-hatch pattern a centre of screen. Fasten locking ring.

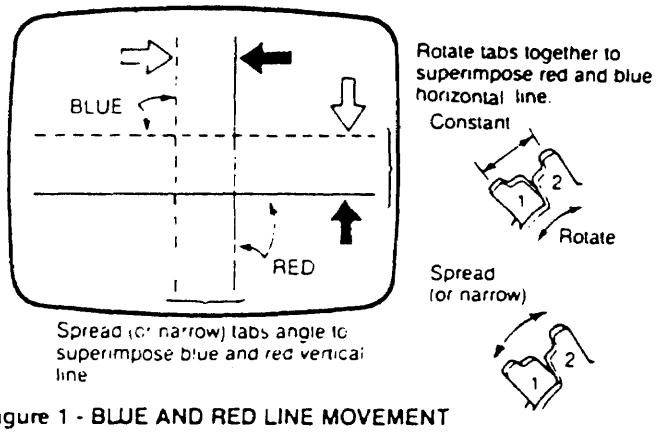


Figure 1 - BLUE AND RED LINE MOVEMENT

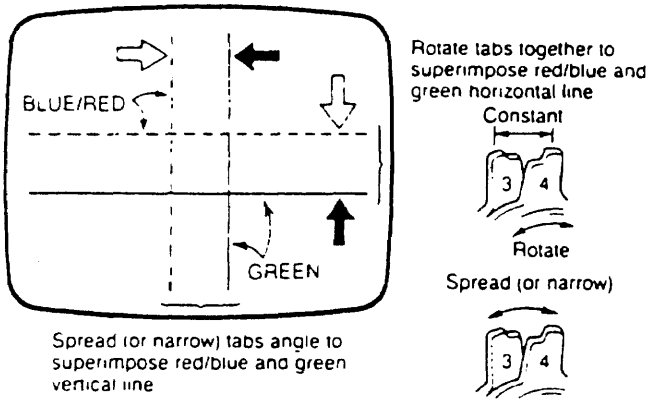
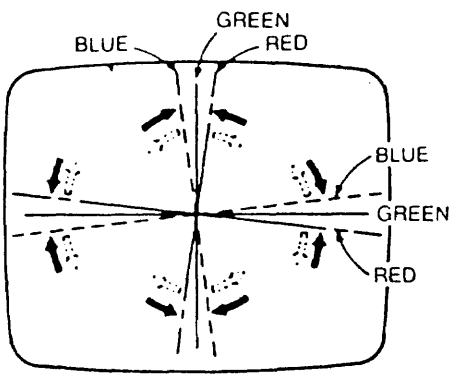
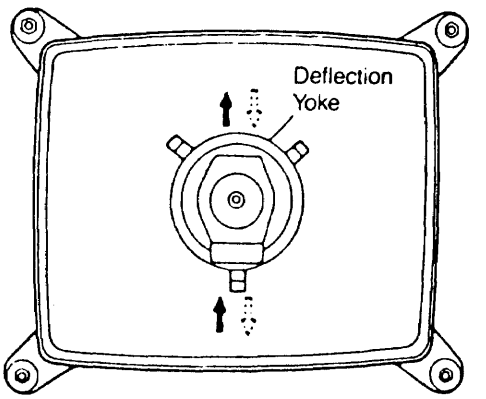


Figure 2 - BLUE/RED AND GREEN LINE MOVEMENT

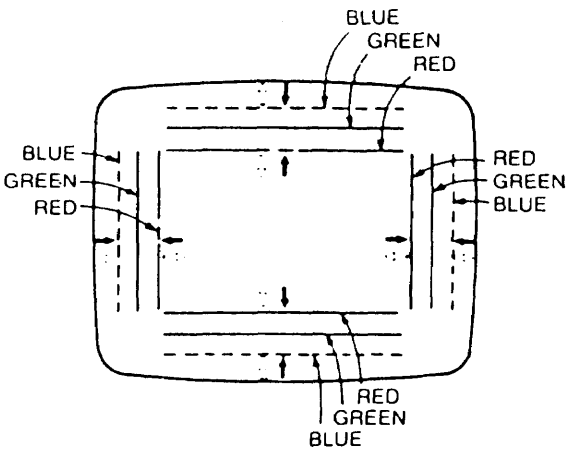
OUTER AREA CONVERGENCE

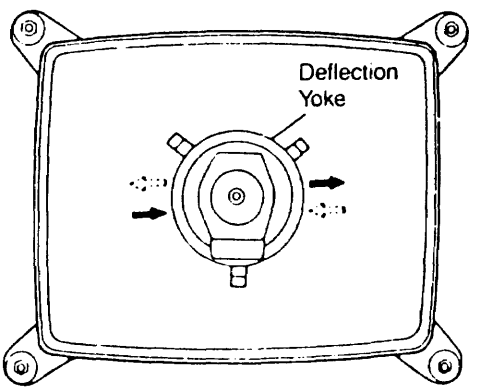
If mis-convergence on the outer area exits, as follow adjustment.





Swing the Deflection Yoke the ← direction, Red/Blue lines on the screen move the ← direction.
Swing the Deflection Yoke the direction, Red/Blue lines on the screen move the direction.

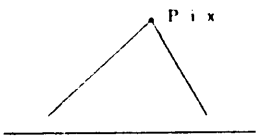
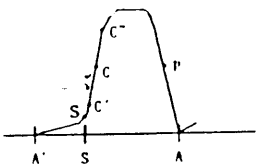




Swing the Deflection Yoke the ← direction, Red/Blue lines on the screen move the ← direction.
Swing the Deflection Yoke the direction, Red/Blue lines on the screen move the direction.
To fasten the Deflection Yoke, Insert and fix the D.Y. spacer.

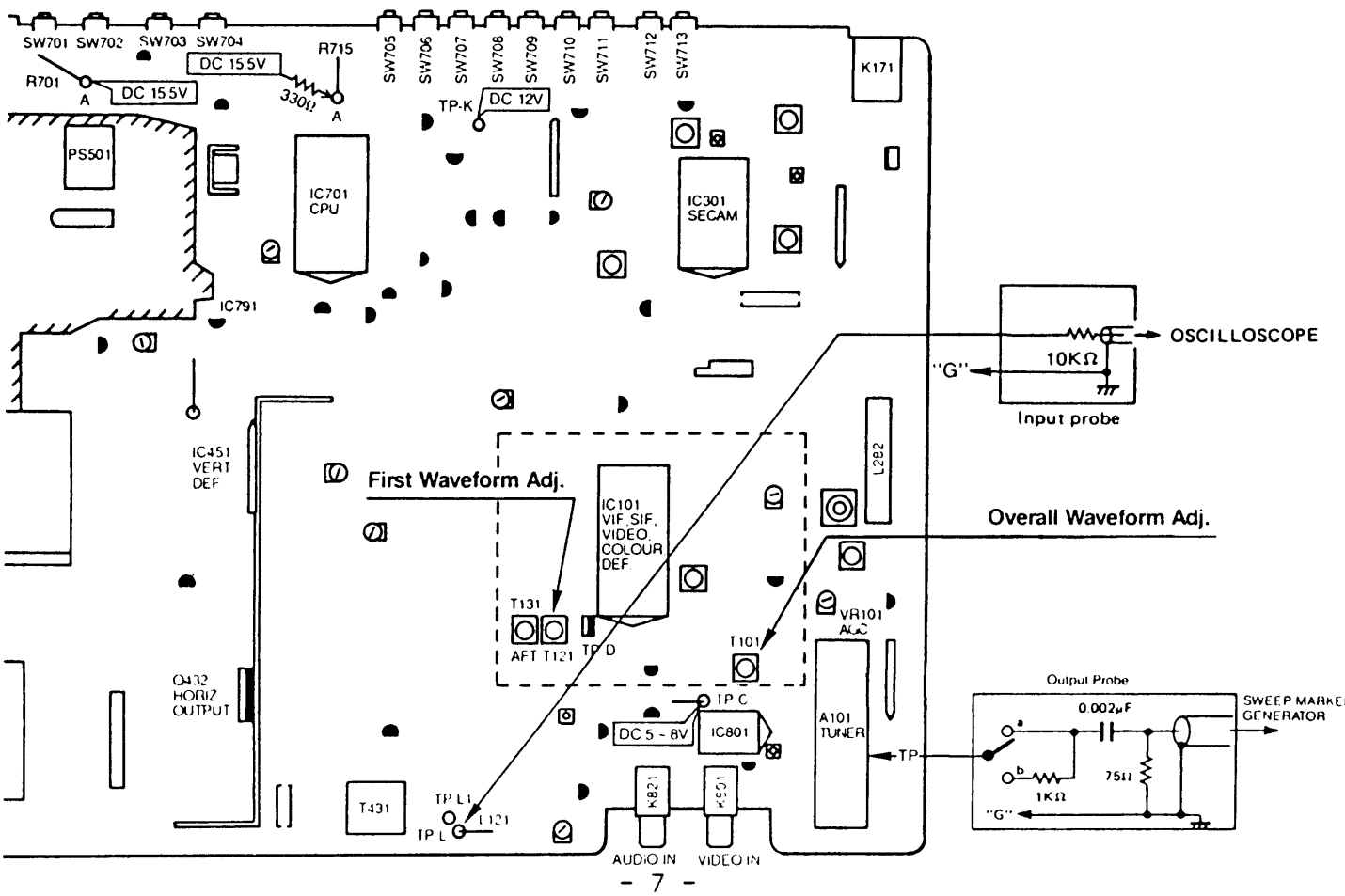
CIRCUIT ALIGNMENT

[VIF ALIGNMENT]

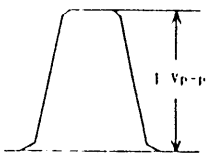
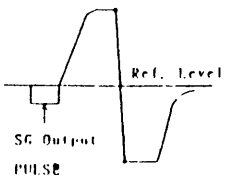
		DETECTOR ADJ.	OVERALL WAVEFORM
S E T T I N G	DC 15.5V DC 5~8V Input probe Output probe Tuning voltage Damping R DC15.5V (JIG-A) VR101 Sweep ATT	R701 TP-C TP-L Tuner-TP a-side TP-K —— R715 Clock wise end 0dB	R701 TP-C TP-L Tuner-TP b-side TP-K TP-D R715 Clock wise end 20dB
Adjustment		By using T121, adjust "P" to be maximum amplitude.	By using tuner-converter coil and T101, make the marker positions to P=30±10% C=25±10%
VIF waveform			

Damping R 100 ohm

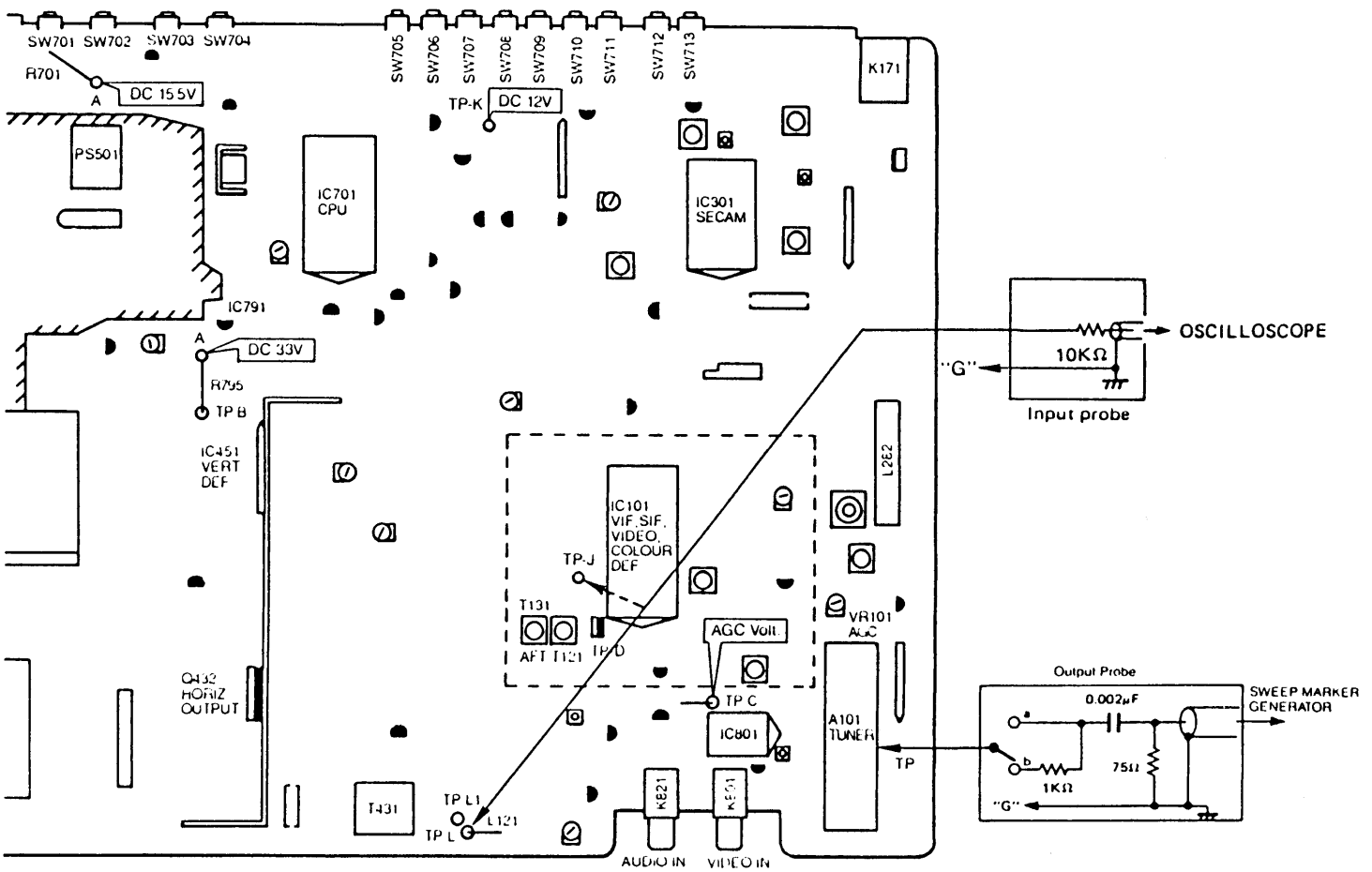
MAIN UNIT



[AFT ALIGNMENT]

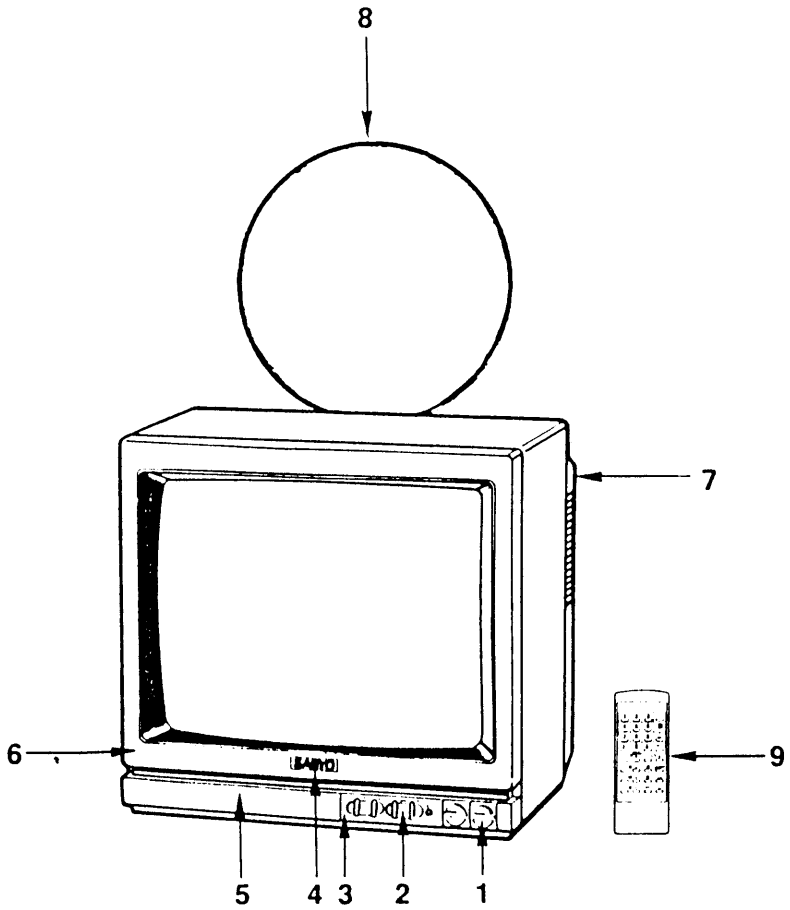
		AGC VOLT ADJ.	RESONANCE F ADJ.
S E T T I N G	DC 15.5V DC (AGC) Input probe Output probe Tuning voltage Damping R DC 33V Sweep ATT	R701 TP-C TP-L Tuner-TP b-side TP-K TP-D R795 20dB	R701 TP-C TP-J Tuner-TP b-side TP-K —— R795 20dB
Adjustment		Fix the AGC voltage when the waveform level is adjusted at 1.0 V_{P-P}.	Keep AGC voltage, and adjust T131 for 39.5 marker is just on the reference line.
AFT waveform			

MAIN UNIT

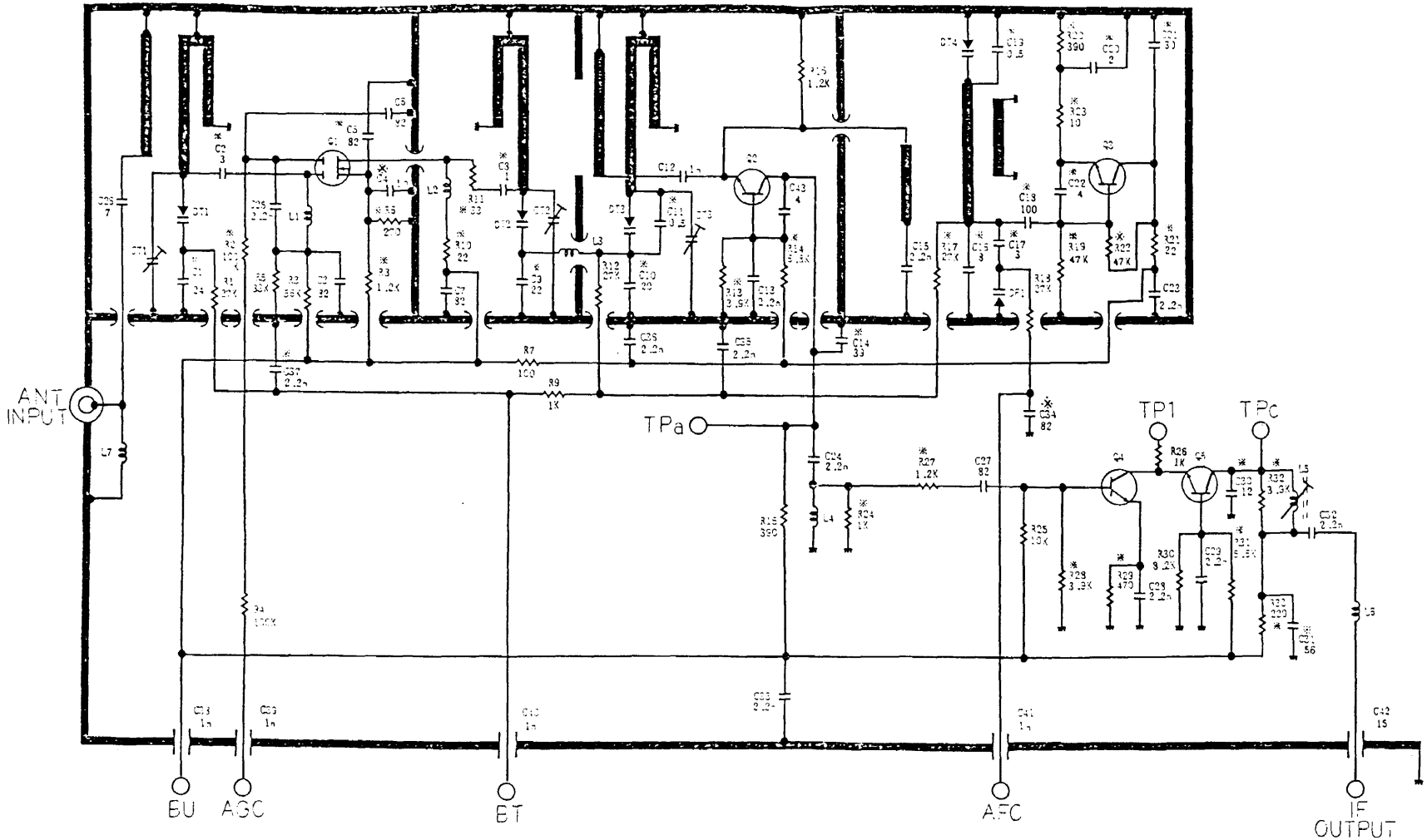


CABINET PARTS LIST

Note: Parts order must contain service reference No., key No., part No. and description.



Key No.	Part No.	Description
1.	610 216 7870	Power Button
	610 210 7302	Spring (Power Button)
2.	610 217 1051	Touch Button
3.	610 217 3772	Panel Description
4.	610 216 6330	Badge
5.	610 217 3765	Door
	610 217 3901	Control Indicate Sheet
6	610 204 6281	Escutcheon
7.	610 105 3235	Back Cover
	610 123 1367	Terminal Description Sheet
8.	610 205 0448	Telescopic Aerial (Loop)
9.	610 216 3865	Remote Control Unit (JXGT)



TERMINAL SUPPLY VOLTAGE

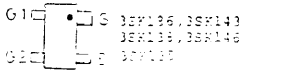
Terminal No	Terminal Name	Supply Voltage
	BU	12.0 (V)
	BT	0.7 ~ 28.0 (V)
	AGC	7.5 (V) 0 Max
	AFC	4.5 ± 3 (V)
	IF OUTPUT	

SYMBOL

Symbol	Symbol No	Semiconductor
	R1 ~ R33	
	except	
	C1 ~ C43	capacitance pF
	except	
	L1 ~ L7	
	except	
	D1 ~ D4	MA334, 1SV164, 1T32, 1SV197, 1SV202, 1SV205
	D1	MA342, HV199, RLV11, 1SV163
	Q1	3SK186, 3SK142, 3SK138, 3SK146, 3SK135
	Q2	2SC3077, 2SC3545, 2SC2759, 2SC3120, 2SC3150, 2SC3567
	Q3	2SC3130, 2SC3545, 2SC2734, 2SC3733, 2SC2753
	Q4, Q5	2SC3123, 2SC2757, 2SC2404, 2SC2733, 2SC2735, 2SC2498, 2SC3120, 2SC3125, 2SC3545, 2SC3150, 2SC2759

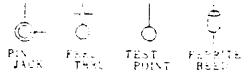
Type No TFCC13EA

TRANSISTOR PIN CONNECTION



2SC3077, 2SC3545
2SC2759, 2SC3120
2SC3150, 2SC2734
2SC3793, 2SC2759
2SC2757, 2SC3123
2SC2404, 2SC2733
2SC2735, 2SC2498
2SC3120, 2SC3125
2SC3545, 2SC3567
2SC2759

SYMBOL NAME



REPAIR PARTS LIST

PRODUCT SAFETY NOTICE

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER COMPONENTS INDICATED BY A MARK ⚠ IN THIS PARTS LIST AND THE CIRCUIT DIAGRAM SHOW COMPONENTS WHOSE VALUE HAVE SPECIAL SIGNIFICANCE TO PRODUCT SAFETY. IT IS PARTICULARLY RECOMMENDED THAT ONLY PARTS SPECIFIED ON THE FOLLOWING PARTS LIST BE USED FOR COMPONENTS REPLACEMENT POINTED OUT BY THE MARK.

NOTE: Part order must contain Service Ref. No., Ref. No., Part No. and Description

610 218 2385 (MAIN UNIT E2JC)

TRANSISTORS

Ref. No.	Part No.	Description
Q101	405 013 3305	TR 2SC2216(SAN)
Q110	405 023 4903	TR 2SD400-D-MP
	OR 405 023 5009	TR 2SD400-E-MP
	OR 405 023 5306	TR 2SD400-F-MP
Q124	406 000 6804	TR 2SA1015-GR(SAN)
	OR 405 001 7407	TR 2SA1015-O(SAN)
	OR 405 001 7605	TR 2SA1015-Y(SAN)
	OR 405 004 3109	TR 2SA564A-Q(CU)
	OR 405 004 3208	TR 2SA564A-R(CU)
	OR 405 004 4205	TR 2SA608-E-CTV-NP
	OR 405 004 4809	TR 2SA608-F-CTV-NP
	OR 405 006 1103	TR 2SA933-Q
	OR 405 006 1202	TR 2SA933-R
	OR 405 006 1707	TR 2SA933S-Q
	OR 405 006 1806	TR 2SA933S-R
Q241	405 001 7407	TR 2SA1015-O(SAN)
	OR 405 001 7605	TR 2SA1015-Y(SAN)
Q431	405 014 2406	TR 2SC2383-O(SAN)
	OR 405 014 2505	TR 2SC2383-R(SAN)
Q432	405 022 6601	TR 2SD1649-CTV-YB
Q511	406 000 6804	TR 2SA1015-GR(SAN)
	OR 405 001 7407	TR 2SA1015-O(SAN)
	OR 405 001 7605	TR 2SA1015-Y(SAN)
	OR 405 004 3109	TR 2SA564A-Q(CU)
	OR 405 004 3208	TR 2SA564A-R(CU)
	OR 405 004 4205	TR 2SA608-E-CTV-NP
	OR 405 004 4809	TR 2SA608-F-CTV-NP
	OR 405 006 1103	TR 2SA933-Q
	OR 405 006 1202	TR 2SA933-R
	OR 405 006 1707	TR 2SA933S-Q
	OR 405 006 1806	TR 2SA933S-R
Q512	405 058 0208	TR 2SC3807-R-CTV-YA
Q513	405 022 8506	TR 2SD1710-CTV-YB
Q551	405 008 4805	TR 2SB764-E
Q552	405 011 7305	TR 2SC1740-Q
	OR 405 011 7404	TR 2SC1740-R
	OR 405 011 7503	TR 2SC1740-S
	OR 405 011 8401	TR 2SC1740S-Q
	OR 405 011 8500	TR 2SC1740S-R
	OR 405 011 8609	TR 2SC1740S-S
	OR 405 012 2002	TR 2SC1815-GR
	OR 405 012 2101	TR 2SC1815-O
	OR 405 012 2309	TR 2SC1815-Y
	OR 405 019 1909	TR 2SC536-E-NP
	OR 405 019 2708	TR 2SC536-F-NP
	OR 405 019 3804	TR 2SC536-G-NP
	OR 405 020 7501	TR 2SC945A-PA
	OR 405 020 7709	TR 2SC945A-QA
	OR 405 020 7907	TR 2SC945A-RA
Q553	405 011 7305	TR 2SC1740-Q
	OR 405 011 7404	TR 2SC1740-R
	OR 405 011 7503	TR 2SC1740-S
	OR 405 011 8401	TR 2SC1740S-Q
	OR 405 011 8500	TR 2SC1740S-R
	OR 405 011 8609	TR 2SC1740S-S
	OR 405 012 2002	TR 2SC1815-GR
	OR 405 012 2101	TR 2SC1815-O
	OR 405 012 2309	TR 2SC1815-Y
	OR 405 019 1909	TR 2SC536-E-NP
	OR 405 019 2708	TR 2SC536-F-NP
	OR 405 019 3804	TR 2SC536-G-NP
	OR 405 020 7501	TR 2SC945A-PA
	OR 405 020 7709	TR 2SC945A-QA
	OR 405 020 7907	TR 2SC945A-RA
Q554	405 008 4805	TR 2SB764-E
Q701	405 011 7305	TR 2SC1740-Q
	OR 405 011 7404	TR 2SC1740-R
	OR 405 011 7503	TR 2SC1740-S
	OR 405 011 8401	TR 2SC1740S-Q
	OR 405 011 8500	TR 2SC1740S-R
	OR 405 011 8609	TR 2SC1740S-S
	OR 405 012 2002	TR 2SC1815-GR
	OR 405 012 2101	TR 2SC1815-O
	OR 405 012 2309	TR 2SC1815-Y
	OR 405 019 1909	TR 2SC536-E-NP
	OR 405 019 2708	TR 2SC536-F-NP
	OR 405 019 3804	TR 2SC536-G-NP
	OR 405 020 7501	TR 2SC945A-PA
	OR 405 020 7709	TR 2SC945A-QA
	OR 405 020 7907	TR 2SC945A-RA
Q721	406 000 6804	TR 2SA1015-GR(SAN)
	OR 405 001 7407	TR 2SA1015-O(SAN)
	OR 405 001 7605	TR 2SA1015-Y(SAN)
	OR 405 004 3109	TR 2SA564A-Q(CU)
	OR 405 004 3208	TR 2SA564A-R(CU)
	OR 405 004 4205	TR 2SA608-E-CTV-NP
	OR 405 004 4809	TR 2SA608-F-CTV-NP
	OR 405 006 1103	TR 2SA933-Q
	OR 405 006 1202	TR 2SA933-R
	OR 405 006 1707	TR 2SA933S-Q
	OR 405 006 1806	TR 2SA933S-R
Q731	405 011 7305	TR 2SC1740-Q
	OR 405 011 7404	TR 2SC1740-R
	OR 405 011 7503	TR 2SC1740-S
	OR 405 011 8401	TR 2SC1740S-Q
	OR 405 011 8500	TR 2SC1740S-R
	OR 405 011 8609	TR 2SC1740S-S
	OR 405 012 2002	TR 2SC1815-GR
	OR 405 012 2101	TR 2SC1815-O
	OR 405 012 2309	TR 2SC1815-Y
	OR 405 019 1909	TR 2SC536-E-NP
	OR 405 019 2708	TR 2SC536-F-NP
	OR 405 019 3804	TR 2SC536-G-NP
	OR 405 020 7501	TR 2SC945A-PA
	OR 405 020 7709	TR 2SC945A-QA
	OR 405 020 7907	TR 2SC945A-RA
Q732	405 011 7305	TR 2SC1740-Q
	OR 405 011 7404	TR 2SC1740-R
	OR 405 011 7503	TR 2SC1740-S
	OR 405 011 8401	TR 2SC1740S-Q
	OR 405 011 8500	TR 2SC1740S-R
	OR 405 011 8609	TR 2SC1740S-S
	OR 405 012 2002	TR 2SC1815-GR
	OR 405 012 2101	TR 2SC1815-O

Ref. No.	Part No.	Description
	OR 405 012 2309	TR 2SC1815-Y
	OR 405 019 1909	TR 2SC536-E-NP
	OR 405 019 2708	TR 2SC536-F-NP
	OR 405 019 3804	TR 2SC536-G-NP
	OR 405 020 7501	TR 2SC945A-PA
	OR 405 020 7709	TR 2SC945A-QA
	OR 405 020 7907	TR 2SC945A-RA
Q733	405 011 7305	TR 2SC1740-Q
	OR 405 011 7404	TR 2SC1740-R
	OR 405 011 7503	TR 2SC1740-S
	OR 405 011 8401	TR 2SC1740S-Q
	OR 405 011 8500	TR 2SC1740S-R
	OR 405 011 8609	TR 2SC1740S-S
	OR 405 012 2002	TR 2SC1815-GR
	OR 405 012 2101	TR 2SC1815-O
	OR 405 012 2309	TR 2SC1815-Y
	OR 405 019 1909	TR 2SC536-E-NP
	OR 405 019 2708	TR 2SC536-F-NP
	OR 405 019 3804	TR 2SC536-G-NP
	OR 405 020 7501	TR 2SC945A-PA
	OR 405 020 7709	TR 2SC945A-QA
	OR 405 020 7907	TR 2SC945A-RA
Q741	405 013 3305	TR 2SC2216(SAN)
Q742	405 011 7305	TR 2SC1740-Q
	OR 405 011 7404	TR 2SC1740-R
	OR 405 011 7503	TR 2SC1740-S
	OR 405 011 8401	TR 2SC1740S-Q
	OR 405 011 8500	TR 2SC1740S-R
	OR 405 011 8609	TR 2SC1740S-S
	OR 405 012 2002	TR 2SC1815-GR
	OR 405 012 2101	TR 2SC1815-O
	OR 405 012 2309	TR 2SC1815-Y
	OR 405 019 1909	TR 2SC536-E-NP
	OR 405 019 2708	TR 2SC536-F-NP
	OR 405 019 3804	TR 2SC536-G-NP
	OR 405 020 7501	TR 2SC945A-PA
	OR 405 020 7709	TR 2SC945A-QA
	OR 405 020 7907	TR 2SC945A-RA
Q751	405 011 7305	TR 2SC1740-Q
	OR 405 011 7404	TR 2SC1740-R
	OR 405 011 7503	TR 2SC1740-S
	OR 405 011 8401	TR 2SC1740S-Q
	OR 405 011 8500	TR 2SC1740S-R
	OR 405 011 8609	TR 2SC1740S-S
	OR 405 012 2002	TR 2SC1815-GR
	OR 405 012 2101	TR 2SC1815-O
	OR 405 012 2309	TR 2SC1815-Y
	OR 405 019 1909	TR 2SC536-E-NP
	OR 405 019 2708	TR 2SC536-F-NP
	OR 405 019 3804	TR 2SC536-G-NP
	OR 405 020 7501	TR 2SC945A-PA
	OR 405 020 7709	TR 2SC945A-QA
	OR 405 020 7907	TR 2SC945A-RA
Q761	405 039 3303	TR 2SC3114-R
	OR 405 039 3402	TR 2SC3114-S
	OR 405 017 1901	TR 2SC3114-T
	OR 405 017 2106	TR 2SC3114-U
Q762	405 011 7305	TR 2SC1740-Q
	OR 405 011 7404	TR 2SC1740-R
	OR 405 011 7503	TR 2SC1740-S
	OR 405 011 8401	TR 2SC1740S-Q
	OR 405 011 8500	TR 2SC1740S-R
	OR 405 011 8609	TR 2SC1740S-S
	OR 405 012 2002	TR 2SC1815-GR
	OR 405 012 2101	TR 2SC1815-O
	OR 405 012 2309	TR 2SC1815-Y
	OR 405 019 1909	TR 2SC536-E-NP
	OR 405 019 2708	TR 2SC536-F-NP
	OR 405 019 3804	TR 2SC536-G-NP
	OR 405 020 7501	TR 2SC945A-PA
	OR 405 020 7709	TR 2SC945A-QA
	OR 405 020 7907	TR 2SC945A-RA
Q785	405 011 7305	TR 2SC1740-Q
	OR 405 011 7404	TR 2SC1740-R
	OR 405 011 7503	TR 2SC1740-S

Ref. No.	Part No.	Description
	OR 405 011 8401	TR 2SC1740S-Q
	OR 405 011 8500	TR 2SC1740S-R
	OR 405 011 8609	TR 2SC1740S-S
	OR 405 012 2002	TR 2SC1815-GR
	OR 405 012 2101	TR 2SC1815-O
	OR 405 012 2309	TR 2SC1815-Y
	OR 405 019 1909	TR 2SC536-E-NP
	OR 405 019 2708	TR 2SC536-F-NP
	OR 405 019 3804	TR 2SC536-G-NP
	OR 405 020 7501	TR 2SC945A-PA
	OR 405 020 7709	TR 2SC945A-QA
	OR 405 020 7907	TR 2SC945A-RA
Q792	405 011 7305	TR 2SC1740-Q
	OR 405 011 7404	TR 2SC1740-R
	OR 405 011 7503	TR 2SC1740-S
	OR 405 011 8401	TR 2SC1740S-Q
	OR 405 011 8500	TR 2SC1740S-R
	OR 405 011 8609	TR 2SC1740S-S
	OR 405 012 2002	TR 2SC1815-GR
	OR 405 012 2101	TR 2SC1815-O
	OR 405 012 2309	TR 2SC1815-Y
	OR 405 019 1909	TR 2SC536-E-NP
	OR 405 019 2708	TR 2SC536-F-NP
	OR 405 019 3804	TR 2SC536-G-NP
	OR 405 020 7501	TR 2SC945A-PA
	OR 405 020 7709	TR 2SC945A-QA
	OR 405 020 7907	TR 2SC945A-RA
Q802	405 011 7305	TR 2SC1740-Q
	OR 405 011 7404	TR 2SC1740-R
	OR 405 011 7503	TR 2SC1740-S
	OR 405 011 8401	TR 2SC1740S-Q
	OR 405 011 8500	TR 2SC1740S-R
	OR 405 011 8609	TR 2SC1740S-S
	OR 405 012 2002	TR 2SC1815-GR
	OR 405 012 2101	TR 2SC1815-O
	OR 405 012 2309	TR 2SC1815-Y
	OR 405 019 1909	TR 2SC536-E-NP
	OR 405 019 2708	TR 2SC536-F-NP
	OR 405 019 3804	TR 2SC536-G-NP
	OR 405 020 7501	TR 2SC945A-PA
	OR 405 020 7709	TR 2SC945A-QA
	OR 405 020 7907	TR 2SC945A-RA
Q810	405 011 7305	TR 2SC1740-Q
	OR 405 011 7404	TR 2SC1740-R
	OR 405 011 7503	TR 2SC1740-S
	OR 405 011 8401	TR 2SC1740S-Q
	OR 405 011 8500	TR 2SC1740S-R
	OR 405 011 8609	TR 2SC1740S-S
	OR 405 012 2002	TR 2SC1815-GR
	OR 405 012 2101	TR 2SC1815-O
	OR 405 012 2309	TR 2SC1815-Y
	OR 405 019 1909	TR 2SC536-E-NP
	OR 405 019 2708	TR 2SC536-F-NP
	OR 405 019 3804	TR 2SC536-G-NP
	OR 405 020 7501	TR 2SC945A-PA
	OR 405 020 7709	TR 2SC945A-QA
	OR 405 020 7907	TR 2SC945A-RA

INTEGRATED CIRCUITS

IC101	409 185 0407	IC LA7680
IC171	409 073 1509	IC AN5265
IC451	409 173 2703	IC LA7837
IC551	409 143 3402	IC AN78M12-LB
	OR 409 026 9507	IC L78M12-RA
	OR 410 000 2308	IC TA78M12P(LB106)
IC701	410 071 9602	IC M34300N4-623SP メモリ
IC791	409 013 0104	IC HZT33
	OR 409 026 8005	IC L5630
	OR 409 057 5103	IC UPC574J
IC801	409 020 8704	IC LC4066B
	OR 409 030 5809	IC MC14066B
	OR 409 051 3501	IC TC4066BP
	OR 409 059 2605	IC UPD4066BC

Ref. No.	Part No.	Description		
CAPACITORS				
C100	403 069 8305	CERAMIC	0.01U Z	50V
C104	403 043 9106	ELECT	47U M	16V
C105	403 048 6308	ELECT	0.47U M	50V
C106	403 009 3407	CERAMIC	100P J	50V
C107	403 033 3602	CERAMIC	82P J	50V
C108	403 026 1103	CERAMIC	47P J	50V
C109	403 069 8305	CERAMIC	0.01U Z	50V
C111	403 069 8305	CERAMIC	0.01U Z	50V
C112	403 069 8305	CERAMIC	0.01U Z	50V
C113	403 056 9506	POLYESTER	0.01U J	50V
	OR 403 057 0205	POLYESTER	0.01U J	50V
C114	403 049 9803	ELECT	2.2U M	50V
C115	403 048 6308	ELECT	0.47U M	50V
C116	403 059 5901	POLYESTER	0.022U K	50V
	OR 403 059 6700	POLYESTER	0.022U K	50V
C117	403 043 6006	ELECT	330U M	16V
C121	403 028 1606	CERAMIC	56P J	50V
C127	403 043 9106	ELECT	47U M	16V
C131	403 033 3503	CERAMIC	82P J	50V
C132	403 022 5907	CERAMIC	33P J	50V
C133	403 069 0507	CERAMIC	1000P K	50V
C134	403 069 8305	CERAMIC	0.01U Z	50V
C135	403 062 0306	POLYESTER	0.047U K	50V
	OR 403 062 1006	POLYESTER	0.047U K	50V
C141	403 022 6300	CERAMIC	33P J	50V
C144	403 017 7602	CERAMIC	22P J	50V
C155	403 069 8305	CERAMIC	0.01U Z	50V
C161	403 069 8305	CERAMIC	0.01U Z	50V
C162	403 041 8804	ELECT	10U M	16V
C163	403 041 8804	ELECT	10U M	16V
C164	403 069 8305	CERAMIC	0.01U Z	50V
C171	403 042 2405	ELECT	100U M	16V
C172	403 049 0008	ELECT	1U M	50V
C173	403 059 3600	POLYESTER	2200P K	50V
	OR 403 059 4201	POLYESTER	2200P K	50V
C181	403 044 9501	ELECT	100U M	25V
C182	403 041 8804	ELECT	10U M	16V
C183	403 041 8804	ELECT	10U M	16V
C184	403 067 7805	MT-COMPO	0.47U J	50V
	OR 403 166 7706	MT-POLYEST	0.47U J	63V
C185	403 047 5005	ELECT	470U M	25V
C186	403 069 8305	CERAMIC	0.01U Z	50V
C188	403 049 9803	ELECT	2.2U M	50V
C193	403 069 8305	CERAMIC	0.01U Z	50V
C201	403 041 8804	ELECT	10U M	16V
C202	403 019 7709	CERAMIC	27P J	50V
C203	403 069 8305	CERAMIC	0.01U Z	50V
C211	403 049 9803	ELECT	2.2U M	50V
C221	403 069 8305	CERAMIC	0.01U Z	50V
C222	403 042 2405	ELECT	100U M	16V
C231	403 085 7306	NP-ELECT	10U M	25V
C232	403 049 0008	ELECT	1U M	50V
C233	403 041 8804	ELECT	10U M	16V
C234	403 041 8804	ELECT	10U M	16V
C235	403 011 3808	CERAMIC	120P J	50V
C251	403 030 5401	CERAMIC	68P J	50V
C252	403 026 1103	CERAMIC	47P J	50V
C253	403 069 8305	CERAMIC	0.01U Z	50V
C255	403 069 8305	CERAMIC	0.01U Z	50V
C261	403 069 8305	CERAMIC	0.01U Z	50V
C262	403 086 2607	NP-ELECT	1U M	50V
C263	403 069 8305	CERAMIC	0.01U Z	50V
C264	403 069 8305	CERAMIC	0.01U Z	50V
C265	403 048 6308	ELECT	0.47U M	50V
C271	403 057 0403	POLYESTER	0.01U K	50V
	OR 403 057 1004	POLYESTER	0.01U K	50V
C272	403 069 8305	CERAMIC	0.01U Z	50V
C282	403 013 1901	CERAMIC	150P J	50V
C283	403 069 8305	CERAMIC	0.01U Z	50V
C284	403 069 8305	CERAMIC	0.01U Z	50V
C285	403 069 8305	CERAMIC	0.01U Z	50V
C286	403 017 7701	CERAMIC	22P J	50V
C290	403 044 1703	ELECT	470U M	16V

Ref. No.	Part No.	Description		
C401	403 049 9803	ELECT	2.2U M	50V
C402	403 071 2407	CERAMIC	1800P K	50V
C411	403 069 0507	CERAMIC	1000P K	50V
C421	403 042 2405	ELECT	100U M	16V
C422	403 060 8205	POLYESTER	0.033U K	50V
	OR 403 060 8809	POLYESTER	0.033U K	50V
C423	403 051 0607	ELECT	4.7U M	50V
C424	403 062 6902	POLYESTER	0.056U K	50V
	OR 403 062 7404	POLYESTER	0.056U K	50V
C425	403 048 6308	ELECT	0.47U M	50V
C431	403 062 6902	POLYESTER	0.056U K	50V
	OR 403 062 7404	POLYESTER	0.056U K	50V
C432	403 075 7101	CERAMIC	1000P K	500V
C433	403 076 3102	CERAMIC	3900P K	500V
C434	403 054 0703	ELECT	47U M	35V
⚠C435	404 030 3909	MT-POLYPRO	5600P J	1.5K
	OR 404 030 4005	MT-POLYPRO	5600P J	1.5K
⚠C437	403 062 2201	POLYESTER	0.47U K	50V
C441	403 082 9006	POLYPRO	0.27U J	200V
C442	403 082 6906	POLYPRO	0.12U J	200V
C443	403 055 3802	ELECT	4.7U M	160V
C451	403 044 1703	ELECT	470U M	16V
C452	403 053 3606	ELECT	2200U M	35V
C453	403 071 5606	CERAMIC	220P K	50V
C454	403 057 0403	POLYESTER	0.01U K	50V
	OR 403 057 1004	POLYESTER	0.01U K	50V
C455	403 091 8908	TA-SOLID	1U K	25V
C456	403 052 7308	ELECT	100U M	35V
C458	403 034 8804	CERAMIC	10P D	500V
C459	403 064 1301	POLYESTER	0.1U K	100V
C461	403 049 4204	ELECT	10U M	50V
C462	403 045 1504	ELECT	1000U M	25V
C463	403 064 6207	POLYESTER	0.033U K	100V
⚠C501	404 039 7502	MT-COMPO	0.22U K	250V
C505	403 076 9203	CERAMIC	2200P M	1K
C507	404 001 0005	ELECT	100U M	400V
	OR 404 031 1003	ELECT	100U M	400V
C514	403 061 4008	POLYESTER	0.039U K	50V
	OR 403 061 4503	POLYESTER	0.039U K	50V
C515	403 057 7303	POLYESTER	0.012U J	50V
	OR 403 057 6801	POLYESTER	0.012U J	50V
C516	403 165 8407	CERAMIC	680P K	2K
	OR 403 077 9103	CERAMIC	680P K	2K
C517	403 059 5901	POLYESTER	0.022U K	50V
	OR 403 059 6700	POLYESTER	0.022U K	50V
⚠C531	404 008 3108	CERAMIC	470P M	400V
C551	403 165 8605	CERAMIC	470P K	2K
	OR 403 077 7901	CERAMIC	470P K	2K
C561	404 042 4703	ELECT	220U M	160V
C562	403 055 1006	ELECT	10U M	160V
C563	403 053 6904	ELECT	330U M	35V
C564	403 045 1504	ELECT	1000U M	25V
C565	403 047 5005	ELECT	470U M	25V
C700	403 039 6508	ELECT	100U M	10V
C701	403 039 6508	ELECT	100U M	10V
C702	403 057 2803	POLYESTER	0.1U K	50V
C704	403 043 9106	ELECT	47U M	16V
C705	403 057 2803	POLYESTER	0.1U K	50V
C707	403 069 8305	CERAMIC	0.01U Z	50V
C708	403 068 9006	CERAMIC	100P K	50V
C709	403 069 0507	CERAMIC	1000P K	50V
C710	403 056 7106	POLYESTER	1000P J	50V
	OR 403 056 7700	POLYESTER	1000P J	50V
C714	403 012 4002	CERAMIC	15P J	50V
C715	403 017 7404	CERAMIC	22P J	50V
C720	403 069 8305	CERAMIC	0.01U Z	50V
C731	403 062 0306	POLYESTER	0.047U K	50V
C741	403 069 8305	CERAMIC	0.01U Z	50V
C762	403 041 8804	ELECT	10U M	16V
C764	403 041 8804	ELECT	10U M	16V
C766	403 041 8804	ELECT	10U M	16V
C782	403 057 2803	POLYESTER	0.1U K	50V
	OR 403 057 3701	POLYESTER	0.1U K	50V
C783	403 057 2803	POLYESTER	0.1U K	50V
	OR 403 057 3701	POLYESTER	0.1U K	50V

Ref. No.	Part No.	Description
C785	403 051 0607	ELECT 4.7U M 50V
C789	403 071 1707	CERAMIC 180P K 50V
C801	403 043 9106	ELECT 47U M 16V
C810	403 043 9106	ELECT 47U M 16V
C821	403 049 0008	ELECT 1U M 50V

RESISTORS

R100	401 024 6700	CARBON 100 JA 1/6W
R101	401 024 9305	CARBON 1.2K JA 1/6W
R102	401 026 9907	CARBON 4.7K JA 1/6W
R103	401 024 7004	CARBON 1K JA 1/6W
R104	401 025 7409	CARBON 220 JA 1/6W
R105	401 026 9303	CARBON 47 JA 1/6W
R106	401 024 7004	CARBON 1K JA 1/6W
R107	401 027 2600	CARBON 5.6K JA 1/6W
R108	401 027 0309	CARBON 47K JA 1/6W
R109	401 024 7707	CARBON 100K JA 1/6W
R110	401 017 0807	CARBON 270 JA 1/4W
R113	401 058 2501	OXIDE-MT 100 JA 1W
R120	401 026 9600	CARBON 470 JA 1/6W
R122	401 024 7004	CARBON 1K JA 1/6W
R123	401 025 3807	CARBON 180 JA 1/6W
R124	401 024 7004	CARBON 1K JA 1/6W
R134	401 022 1905	CARBON 680 JA 1/4W
R137	401 026 1604	CARBON 270K JA 1/6W
R138	401 026 1604	CARBON 270K JA 1/6W
R139	401 025 8703	CARBON 220K JA 1/6W
R140	401 024 7004	CARBON 1K JA 1/6W
R155	401 024 7400	CARBON 10K JA 1/6W
R156	401 024 7004	CARBON 1K JA 1/6W
R157	401 027 0309	CARBON 47K JA 1/6W
R161	401 027 8305	CARBON 820 JA 1/6W
R162	401 027 0309	CARBON 47K JA 1/6W
R163	401 026 9907	CARBON 4.7K JA 1/6W
R164	401 025 1902	CARBON 15K JA 1/6W
R171	402 002 1601	FUSIBLE RES 33 J- 1/2W
R175	401 024 9701	CARBON 12K JA 1/6W
R183	401 025 1605	CARBON 1.5K JA 1/6W
R184	401 025 8208	CARBON 22K JA 1/6W
R185	401 024 6007	CARBON 1.5 JA 1/6W
R191	401 007 7601	CARBON 150 JA 1/2W
R192	401 007 7601	CARBON 150 JA 1/2W
R200	401 024 7400	CARBON 10K JA 1/6W
R201	401 025 4200	CARBON 1.8K JA 1/6W
R202	401 025 1605	CARBON 1.5K JA 1/6W
R203	401 026 3905	CARBON 330 JA 1/6W
R204	401 026 4308	CARBON 3.3K JA 1/6W
R212	401 025 8208	CARBON 22K JA 1/6W
R217	401 024 7400	CARBON 10K JA 1/6W
R231	401 017 3808	CARBON 270K JA 1/4W
R232	401 024 7004	CARBON 1K JA 1/6W
R233	401 000 7509	SOLID 1.5K KA 1/2W
R235	401 024 7400	CARBON 10K JA 1/6W
R241	401 024 6700	CARBON 100 JA 1/6W
R242	401 009 5803	CARBON 330 JA 1/2W
R244	401 025 1902	CARBON 15K JA 1/6W
R246	401 026 9303	CARBON 47 JA 1/6W
R251	401 025 4200	CARBON 1.8K JA 1/6W
R255	401 024 7004	CARBON 1K JA 1/6W
R256	401 025 8208	CARBON 22K JA 1/6W
R261	401 026 9907	CARBON 4.7K JA 1/6W
R262	401 024 9701	CARBON 12K JA 1/6W
R263	401 025 8703	CARBON 220K JA 1/6W
R264	401 026 7606	CARBON 390K JA 1/6W
R281	401 026 6609	CARBON 390 JA 1/6W
R283	401 027 5205	CARBON 680 JA 1/6W
R284	401 027 5205	CARBON 680 JA 1/6W
R401	401 027 9005	CARBON 82K JA 1/6W
R402	401 026 0607	CARBON 270 JA 1/6W
R411	401 024 7004	CARBON 1K JA 1/6W
R412	401 009 1508	CARBON 2.7K JA 1/2W
R420	401 007 4709	CARBON 1.2K JA 1/2W
R421	401 024 7004	CARBON 1K JA 1/6W

Ref. No.	Part No.	Description
R422	401 025 8703	CARBON 220K JA 1/6W
R431	401 026 3905	CARBON 330 JA 1/6W
R432	401 024 7004	CARBON 1K JA 1/6W
R433	401 007 1104	CARBON 1K JA 1/2W
R434	401 067 0000	OXIDE-MT 270 JA 2W
R435	402 012 4609	WIRE WOUND 12 KA W 6W
R442	401 025 8703	CARBON 220K JA 1/6W
R443	401 062 1200	OXIDE-MT 470 JA 1W
R450	401 025 1605	CARBON 1.5K JA 1/6W
R451	402 002 0307	FUSIBLE RES 15 J- 1/2W
R452	401 026 1307	CARBON 27K JA 1/6W
R453	401 027 5502	CARBON 6.8K JA 1/6W
R454	401 027 5908	CARBON 68K JA 1/6W
R455	401 026 1307	CARBON 27K JA 1/6W
R456	401 024 7004	CARBON 1K JA 1/6W
R457	401 026 8108	CARBON 4.7 JA 1/6W
R461	401 026 7002	CARBON 3.9K JA 1/6W
R462	401 025 4200	CARBON 1.8K JA 1/6W
R463	401 027 5502	CARBON 6.8K JA 1/6W
R464	401 026 6609	CARBON 390 JA 1/6W
R465	401 006 8807	CARBON 1.8 JA 1/2W
R468	401 009 5803	CARBON 330 JA 1/2W
R501	401 008 8607	CARBON 220K JA 1/2W
R502	402 012 6306	WIRE WOUND 3.9 KA W 6W
R511	401 027 2600	CARBON 5.6K JA 1/6W
R515	401 025 8208	CARBON 22K JA 1/6W
R517	401 027 2303	CARBON 560 JA 1/6W
R519	401 016 2604	CARBON 220 JA 1/4W
R520	401 007 5805	CARBON 120K JA 1/2W
R521	401 007 5805	CARBON 120K JA 1/2W
R522	401 014 5201	CARBON 15K JA 1/4W
R524	401 069 6208	OXIDE-MT 82 JA 2W
R525	401 069 1708	OXIDE-MT 68 JA 2W
R526	401 016 3304	CARBON 2.2K GA 1/4W
⚠R531	402 000 8305	SOLID 5.6M KA 1/2W
⚠R532	402 000 8305	SOLID 5.6M KA 1/2W
R551	401 066 8007	OXIDE-MT 22K JA 2W
R552	401 012 8105	CARBON 100K JA 1/4W
R553	401 020 2003	CARBON 4.7K JA 1/4W
R554	401 014 6109	CARBON 150K JA 1/4W
R555	401 010 4307	CARBON 47K JA 1/2W
R556	401 025 8208	CARBON 22K JA 1/6W
R557	401 058 1108	OXIDE-MT 10 JA 1W
R559	401 008 3701	CARBON 2.2 JA 1/2W
R560	401 009 6602	CARBON 3.3K JA 1/2W
R561	401 066 3002	OXIDE-MT 2.2 JA 2W
⚠R562	402 002 4404	FUSIBLE RES 6.8 J- 1W
R563	401 069 6208	OXIDE-MT 82 JA 2W
R564	401 024 7400	CARBON 10K JA 1/6W
R565	401 019 1901	CARBON 3.9K JA 1/4W
R566	401 024 7400	CARBON 10K JA 1/6W
R567	401 013 5301	CARBON 1.2K JA 1/4W
R700	401 026 3905	CARBON 330 JA 1/6W
R701	401 065 6707	OXIDE-MT 150 JA 2W
R702	401 024 7400	CARBON 10K JA 1/6W
R703	401 026 9907	CARBON 4.7K JA 1/6W
R704	401 024 7400	CARBON 10K JA 1/6W
R705	401 027 5908	CARBON 68K JA 1/6W
R706	401 027 5908	CARBON 68K JA 1/6W
R707	401 027 0309	CARBON 47K JA 1/6W
R708	401 024 7400	CARBON 10K JA 1/6W
R709	401 025 4200	CARBON 1.8K JA 1/6W
R710	401 026 7606	CARBON 390K JA 1/6W
R711	401 027 3201	CARBON 560K JA 1/6W
R712	401 024 6700	CARBON 100 JA 1/6W
R716	401 027 0309	CARBON 47K JA 1/6W
R719	401 025 8208	CARBON 22K JA 1/6W
R721	401 025 1605	CARBON 1.5K JA 1/6W
R722	401 027 8602	CARBON 8.2K JA 1/6W
R723	401 026 9907	CARBON 4.7K JA 1/6W
R724	401 026 9600	CARBON 470 JA 1/6W
R731	401 025 8208	CARBON 22K JA 1/6W
R733	401 025 8208	CARBON 22K JA 1/6W
R734	401 027 0309	CARBON 47K JA 1/6W
R735	401 027 2600	CARBON 5.6K JA 1/6W

Ref. No.	Part No.	Description
R736	401 025 8208	CARBON 22K JA 1/6W
R737	401 024 7400	CARBON 10K JA 1/6W
R738	401 027 2600	CARBON 5.6K JA 1/6W
R739	401 026 9907	CARBON 4.7K JA 1/6W
R741	401 024 7400	CARBON 10K JA 1/6W
R742	401 026 4605	CARBON 33K JA 1/6W
R743	401 027 2600	CARBON 5.6K JA 1/6W
R745	401 025 3807	CARBON 180 JA 1/6W
R746	401 024 7004	CARBON 1K JA 1/6W
R747	401 024 7004	CARBON 1K JA 1/6W
R748	401 025 7409	CARBON 220 JA 1/6W
R758	401 027 5502	CARBON 6.8K JA 1/6W
R759	401 025 8208	CARBON 22K JA 1/6W
R761	401 024 6700	CARBON 100 JA 1/6W
R762	401 027 2600	CARBON 5.6K JA 1/6W
R763	401 027 0309	CARBON 47K JA 1/6W
R764	401 025 4200	CARBON 1.8K JA 1/6W
R765	401 027 2303	CARBON 560 JA 1/6W
R766	401 027 2303	CARBON 560 JA 1/6W
R767	401 025 7805	CARBON 2.2K JA 1/6W
R768	401 025 4606	CARBON 18K JA 1/6W
R769	401 026 7408	CARBON 39K JA 1/6W
R770	401 026 9907	CARBON 4.7K JA 1/6W
R771	401 025 8208	CARBON 22K JA 1/6W
R773	401 025 1902	CARBON 15K JA 1/6W
R774	401 025 4606	CARBON 18K JA 1/6W
R775	401 026 1307	CARBON 27K JA 1/6W
R778	401 026 9907	CARBON 4.7K JA 1/6W
R779	401 027 0309	CARBON 47K JA 1/6W
R780	401 025 4606	CARBON 18K JA 1/6W
R781	401 027 5908	CARBON 68K JA 1/6W
R783	401 026 7408	CARBON 39K JA 1/6W
R785	401 025 8208	CARBON 22K JA 1/6W
R786	401 025 8208	CARBON 22K JA 1/6W
R787	401 025 8208	CARBON 22K JA 1/6W
R788	401 025 8208	CARBON 22K JA 1/6W
R789	401 026 1307	CARBON 27K JA 1/6W
R790	401 026 4605	CARBON 33K JA 1/6W
R791	401 025 8208	CARBON 22K JA 1/6W
R793	401 025 8208	CARBON 22K JA 1/6W
R794	401 025 7409	CARBON 220 JA 1/6W
R795	401 064 9907	OXIDE-MT 10K JA 2W
R796	401 026 9600	CARBON 470 JA 1/6W
R798	401 027 2600	CARBON 5.6K JA 1/6W
R801	401 023 0709	CARBON 82 JA 1/4W
R802	401 024 6700	CARBON 100 JA 1/6W
R806	401 027 8602	CARBON 8.2K JA 1/6W
R807	401 027 5502	CARBON 6.8K JA 1/6W
R808	401 024 7004	CARBON 1K JA 1/6W
R810	401 025 8208	CARBON 22K JA 1/6W
R811	401 027 2600	CARBON 5.6K JA 1/6W
R812	401 024 6700	CARBON 100 JA 1/6W
R821	401 024 7707	CARBON 100K JA 1/6W
R822	401 024 7004	CARBON 1K JA 1/6W

VARIABLE RESISTORS

VR101	610 019 3901	VARIABLE RESISTOR B-10K
	OR 610 019 3413	VR B-10K
VR121	610 019 3864	VARIABLE RESISTOR B-1K
	OR 610 019 3338	VR B-1K
VR211	610 019 3932	VARIABLE RESISTOR B-50K
VR281	610 019 3864	VARIABLE RESISTOR B-1K
VR411	610 019 3918	VARIABLE RESISTOR B-20K
	OR 610 019 3451	VR B-20K
VR451	610 019 3949	VARIABLE RESISTOR B-100K
	OR 610 019 3512	VR B-100K
VR551	610 019 3871	VARIABLE RESISTOR B-2K
	OR 610 019 3352	VR B-2K
VR710	610 019 3888	VARIABLE RESISTOR B-3K

TRANSFORMERS

Ref. No.	Part No.	Description
T101	610 037 5727	S TRANS
T103	610 213 4551	S TRANS
T121	610 037 4522	S COIL
T131	610 037 6557	S TRANS
	OR 610 037 6564	S TRANS
T281	610 037 7028	S TRANS
T431	610 000 1060	DRIVE TRANS
	OR 610 000 1053	DRIVE TRANS
⚠T471	610 017 9974	FBT
⚠T511	610 216 4534	CONVERTER TRANS

COILS

L121	610 031 3958	PEAKING COIL
L131	610 031 3958	PEAKING COIL
L141	610 031 3910	PEAKING COIL
L161	610 031 3958	PEAKING COIL
L201	610 030 0903	DELAY LINE
L211	610 037 4546	S COIL
L221	610 029 5926	PEAKING COIL 10UH K
	OR 610 210 3366	PEAKING COIL 10UHK
	OR 610 029 8125	PEAKING COIL 10UH K
L251	610 031 4177	PEAKING COIL
L281	610 031 4290	PEAKING COIL 8.2UHK
L282	610 032 6699	1H DELAYLINE
	OR 610 032 6705	1H DELAYLINE
L283	610 031 4603	PEAKING COIL
L431	610 078 4635	PIPECORE
L432	610 078 4635	PIPECORE
L451	610 031 3156	PEAKING COIL
	OR 610 210 3809	PEAKING COIL 18UHK
L502	610 031 5945	LINE FILTER
	OR 610 031 5969	LINE FILTER
	OR 610 213 9563	LINE FILTER
⚠L503	610 031 5945	LINE FILTER
	OR 610 031 5969	LINE FILTER
	OR 610 213 9563	LINE FILTER
L561	610 078 4635	PIPECORE
L700	610 029 5926	PEAKING COIL 10UH K
	OR 610 210 3366	PEAKING COIL 10UHK
	OR 610 029 8125	PEAKING COIL 10UH K
L701	610 031 4504	PEAKING COIL
L781	610 031 3873	PEAKING COIL 10UHK

DIODES

D110	407 048 5606	ZENER DIODE EQA02-10A
D231	407 005 4505	DIODE DS442X
	OR 407 013 1008	DIODE 1S1553
	OR 407 013 4306	DIODE 1S2076A
	OR 407 013 6508	DIODE 1S2471
D241	407 075 9905	ZENER DIODE EQA03-11A
D242	407 005 4208	DIODE DS442S2
	OR 408 008 2406	DIODE 1N4148
	OR 407 013 1206	DIODE 1S1555
	OR 407 013 4207	DIODE 1S2076
	OR 407 013 7109	DIODE 1S2473
D243	407 005 4208	DIODE DS442S2
	OR 408 008 2406	DIODE 1N4148
	OR 407 013 1206	DIODE 1S1555
	OR 407 013 4207	DIODE 1S2076
	OR 407 013 7109	DIODE 1S2473
D255	407 005 4208	DIODE DS442S2
	OR 408 008 2406	DIODE 1N4148
	OR 407 013 1206	DIODE 1S1555
	OR 407 013 4207	DIODE 1S2076
	OR 407 013 7109	DIODE 1S2473
D411	407 048 5606	ZENER DIODE EQA02-10A
	OR 407 048 5804	ZENER DIODE EQA02-10B
D441	407 006 3903	DIODE ERB43-04
	OR 407 011 4407	DIODE TVR1G
D451	408 009 9008	DIODE BYD33D
	OR 407 005 7308	DIODE EM01Z

Ref. No.	Part No.	Description
	OR 407 006 1008	DIODE ERB12-02RK
D452	408 009 9305	DIODE BYD33G
	OR 407 007 7801	DIODE EU2Z
	OR 407 013 1909	DIODE 1S1834
D505	407 006 6300	DIODE ERC05-10B
	OR 407 009 6901	DIODE RM11C
	OR 407 064 6908	DIODE TVR4N(X)
D514	407 005 4505	DIODE DS442X
	OR 407 013 1008	DIODE 1S1553
	OR 407 013 4306	DIODE 1S2076A
	OR 407 013 6508	DIODE 1S2471
D515	407 105 8700	PHOTO COUPLE PC113B
D516	407 005 4505	DIODE DS442X
	OR 407 013 1008	DIODE 1S1553
	OR 407 013 4306	DIODE 1S2076A
	OR 407 013 6508	DIODE 1S2471
D517	408 009 9008	DIODE BYD33D
	OR 407 007 6606	DIODE ES1
	OR 407 007 6903	DIODE ES1Z
D551	408 009 9206	DIODE BYD33J
	OR 407 007 7702	DIODE EU2A
	OR 407 064 7004	DIODE 1S1835
D553	408 009 9305	DIODE BYD33G
	OR 407 007 6606	DIODE ES1
	OR 407 013 1909	DIODE 1S1834
D554	408 009 9305	DIODE BYD33G
	OR 407 007 7801	DIODE EU2Z
	OR 407 013 1909	DIODE 1S1834
D555	408 009 9305	DIODE BYD33G
	OR 407 007 6606	DIODE ES1
	OR 407 013 1909	DIODE 1S1834
D561	407 048 2407	ZENER DIODE EQA02-06E
	OR 407 048 2605	ZENER DIODE EQA02-06F
D562	407 005 4208	DIODE DS442S2
	OR 408 008 2406	DIODE 1N4148
	OR 407 013 1206	DIODE 1S1555
	OR 407 013 4207	DIODE 1S2076
	OR 407 013 7109	DIODE 1S2473
D701	407 048 1103	ZENER DIODE EQA02-05D
	OR 407 048 1202	ZENER DIODE EQA02-05E
D702	407 005 4208	DIODE DS442S2
	OR 408 008 2406	DIODE 1N4148
	OR 407 013 1206	DIODE 1S1555
	OR 407 013 4207	DIODE 1S2076
	OR 407 013 7109	DIODE 1S2473
D704	408 009 3808	LED SLC-26VR5F
	OR 407 029 1207	LED SLP-177B-60
D711	407 005 4208	DIODE DS442S2
	OR 408 008 2406	DIODE 1N4148
	OR 407 013 1206	DIODE 1S1555
	OR 407 013 4207	DIODE 1S2076
	OR 407 013 7109	DIODE 1S2473
D712	407 005 4208	DIODE DS442S2
	OR 408 008 2406	DIODE 1N4148
	OR 407 013 1206	DIODE 1S1555
	OR 407 013 4207	DIODE 1S2076
	OR 407 013 7109	DIODE 1S2473
D714	407 005 4208	DIODE DS442S2
	OR 408 008 2406	DIODE 1N4148
	OR 407 013 1206	DIODE 1S1555
	OR 407 013 4207	DIODE 1S2076
	OR 407 013 7109	DIODE 1S2473
D721	407 055 7907	ZENER DIODE RD3.6EL
D731	407 005 4208	DIODE DS442S2
	OR 408 008 2406	DIODE 1N4148
	OR 407 013 1206	DIODE 1S1555
	OR 407 013 4207	DIODE 1S2076
	OR 407 013 7109	DIODE 1S2473
D741	407 005 4208	DIODE DS442S2
	OR 408 008 2406	DIODE 1N4148
	OR 407 013 1206	DIODE 1S1555
	OR 407 013 4207	DIODE 1S2076
	OR 407 013 7109	DIODE 1S2473
D781	407 005 4208	DIODE DS442S2
	OR 408 008 2406	DIODE 1N4148

Ref. No.	Part No.	Description
	OR 407 013 1206	DIODE 1S1555
	OR 407 013 4207	DIODE 1S2076
	OR 407 013 7109	DIODE 1S2473
D792	407 005 4208	DIODE DS442S2
	OR 408 008 2406	DIODE 1N4148
	OR 407 013 1206	DIODE 1S1555
	OR 407 013 4207	DIODE 1S2076
	OR 407 013 7109	DIODE 1S2473
D8Q1	407 005 4208	DIODE DS442S2
	OR 408 008 2406	DIODE 1N4148
	OR 407 013 1206	DIODE 1S1555
	OR 407 013 4207	DIODE 1S2076
	OR 407 013 7109	DIODE 1S2473

MISCELLANEOUS

F501-A1	610 012 4356	FUSE CLIP
	OR 610 212 8543	FUSE CLIP
F501-A2	610 012 4356	FUSE CLIP
	OR 610 212 8543	FUSE CLIP
TH710	407 015 0405	THERMISTOR SDT-35-CTV
A101	610 217 7138	UHF VARACTOR TUNER
A701	610 207 5137	PREAMP 408-1T/1A/1C/1D
	OR 610 214 4833	RC PREAMP 409-1A/1B
D704A	610 210 6817	LED HOLDER-G2CA
⚠F501	423 013 9301	FUSE 250V 2.5A
IC451-1	411 036 3208	SCR PAN+SW+W 3X10
IC451-2	411 054 7103	NUT HEX 3
IC451-3	610 077 7781	SILICON GREASE
IC551-1	610 219 0335	HEAT SINK-E2JC
KDY1P	610 014 3364	M/C TERMINAL PLUG
KDY2P	610 014 3364	M/C TERMINAL PLUG
KDY3P	610 014 3364	M/C TERMINAL PLUG
KDY4P	610 014 3364	M/C TERMINAL PLUG
KE1P	610 014 3364	M/C TERMINAL PLUG
KE2P	610 014 3364	M/C TERMINAL PLUG
KP	610 012 3380	WIRE HOLDER 6P
KQ	610 012 3342	WIRE HOLDER 4P
KSCP	610 014 3364	M/C TERMINAL PLUG
KW	610 010 7960	HOUSING PLUG 2P
K171	610 212 6334	PHONE JACK
K801	610 010 8820	RCA JACK 1P
K821	610 010 8813	RCA JACK 1P
PS501	408 000 3906	TH PTH451A13BG180M270
	OR 408 003 6805	THERMISTOR 902P44E180MR14
Q432-1	610 218 3092	HOR & VERT HEAT SINK-E2JC
Q432-3	411 045 2803	SCR PAN+SW 3X12
Q432-4	411 054 7103	NUT HEX 3
Q432-5	610 077 7781	SILICON GREASE
Q432-6	610 130 5549	WIRE HOLDER D13-AWZ
Q432-7	412 031 0605	SPECIAL SCREW
Q513-1	610 218 3085	POWER HEAT SINK-E2JC
Q513-3	411 045 2803	SCR PAN+SW 3X12
Q513-4	411 054 7103	NUT HEX 3
Q513-5	610 077 7781	SILICON GREASE
Q513-6	610 130 5549	WIRE HOLDER D13-AWZ
Q513-7	412 031 0605	SPECIAL SCREW
SW251	610 011 2728	LEVER SWITCH
⚠SW501	610 218 9162	PUSH SWITCH
SW701	610 011 2698	PUSH SWITCH
SW702	610 011 2698	PUSH SWITCH
SW703	610 011 2698	PUSH SWITCH
SW704	610 011 2698	PUSH SWITCH
SW705	610 011 4432	PUSH SWITCH
SW706	610 011 4432	PUSH SWITCH
SW708-10	610 216 7962	PUSH SWITCH
SW712	610 011 4432	PUSH SWITCH
SW713	610 011 4432	PUSH SWITCH
TP-A	610 014 3364	M/C TERMINAL PLUG
TP-D1-2	610 010 7960	HOUSING PLUG 2P
TP-F	610 014 3364	M/C TERMINAL PLUG
TP-G	610 014 3364	M/C TERMINAL PLUG
TP-H	610 014 3364	M/C TERMINAL PLUG
TP-3E	610 014 3364	M/C TERMINAL PLUG

Ref. No.	Part No.	Description
X101	421 002 9400	SAW F TSF1306L
X121	610 015 2885	CERAMIC FILTER
X143	610 012 1454	CERAMIC FILTER
	OR 610 015 2908	CERAMIC FILTER
X161	610 219 0779	CERAMIC FILTER
X201	610 012 0495	CRYSTAL OSCILLATOR
	OR 610 012 0501	CRYSTAL OSCILLATOR
	OR 610 204 4188	CRYSTAL OSCILLATOR
	OR 610 012 0525	CRYSTAL OSCILLATOR
X251	610 012 2222	CERAMIC TRAP
X421	610 216 6149	CERAMIC OSCILLATOR
X701	610 012 2857	CERAMIC OSCILLATOR
	OR 610 212 8765	CERAMIC OSCILLATOR

610 218 2408 (CRT UNIT E2JC)

TRANSISTORS

Q601	405 040 5600	TR 2SC2228-D
	OR 405 029 6901	TR 2SC2228-E
	OR 406 000 5104	TR 2SC2229-O(SAN-2)
	OR 406 000 5203	TR 2SC2229-Y(SAN-2)
Q611	405 040 5600	TR 2SC2228-D
	OR 405 029 6901	TR 2SC2228-E
	OR 406 000 5104	TR 2SC2229-O(SAN-2)
	OR 406 000 5203	TR 2SC2229-Y(SAN-2)
Q621	405 040 5600	TR 2SC2228-D
	OR 405 029 6901	TR 2SC2228-E
	OR 406 000 5104	TR 2SC2229-O(SAN-2)
	OR 406 000 5203	TR 2SC2229-Y(SAN-2)
Q641	405 040 5600	TR 2SC2228-D
	OR 405 029 6901	TR 2SC2228-E
	OR 406 000 5104	TR 2SC2229-O(SAN-2)
	OR 406 000 5203	TR 2SC2229-Y(SAN-2)

CAPACITORS

C601	403 073 2900	CERAMIC	390P K	50V
C602	403 074 5702	CERAMIC	560P K	50V
C611	403 073 2900	CERAMIC	390P K	50V
C612	403 074 5702	CERAMIC	560P K	50V
C621	403 073 2900	CERAMIC	390P K	50V
C622	403 074 8901	CERAMIC	680P K	50V
C631	403 077 2708	CERAMIC	1000P P	2K
C632	403 077 2708	CERAMIC	1000P P	2K

RESISTORS

R601	401 065 4604	OXIDE-MT	12K JA	2W
R602	401 002 0102	SOLID	3.3K KA	1/2W
R603	401 014 2903	CARBON	150 JA	1/4W
R611	401 065 4604	OXIDE-MT	12K JA	2W
R612	401 002 0102	SOLID	3.3K KA	1/2W
R613	401 014 2903	CARBON	150 JA	1/4W
R621	401 065 4604	OXIDE-MT	12K JA	2W
R622	401 002 0102	SOLID	3.3K KA	1/2W
R623	401 014 2903	CARBON	150 JA	1/4W
R624	401 017 0807	CARBON	270 JA	1/4W
R631	401 001 7607	SOLID	270K KA	1/2W
R632	401 018 1605	CARBON	33 JA	1/4W
R642	401 012 5708	CARBON	1K JA	1/4W

VARIABLE RESISTORS

VR601	610 019 0825	VARIABLE RESISTOR
VR602	610 019 0818	VARIABLE RESISTOR
VR611	610 019 0825	VARIABLE RESISTOR
VR612	610 019 0818	VARIABLE RESISTOR
VR621	610 019 0825	VARIABLE RESISTOR

Ref. No.	Part No.	Description

COILS

L651	610 032 0895	INDUCTOR

MISCELLANEOUS

KTP6A	610 014 3364	M/C TERMINAL PLUG
KTP6B	610 014 3364	M/C TERMINAL PLUG
KTP6E	610 014 3364	M/C TERMINAL PLUG
K6M	610 014 3364	M/C TERMINAL PLUG
K601	610 010 4938	CRT SOCKET

(OUT OF CIRCUIT BOARDS)

PICTURE TUBE

⚠Q901	414 005 6002	CRT 37GDA85X(P)
	OR 414 006 1808	CRT 3750B22(P)

COILS

⚠L901	610 030 3911	DEGAUSSING COIL
	OR 610 030 5397	DEGAUSSING COIL
⚠L902	610 003 4914	DEFLECTION YOKE

MISCELLANEOUS

KFO-1	610 212 6341	TERMINAL SOCKET
KFO-2	610 155 9720	LEAD HOLDER-SMA
KSCS	610 013 9442	MINI CONNECTOR 1P-SOCKET
KSCS-1	610 013 9404	M/C TERMINAL SOCKET
KWS	610 010 8059	HOUSING 2P
KWS1	610 010 8141	TERMINAL SOCKET
KWS2	610 010 8141	TERMINAL SOCKET
K6PS	610 012 3380	WIRE HOLDER 6P
K6QS	610 012 3342	WIRE HOLDER 4P
NO.1	610 014 2916	ANT PLUG
	OR 610 013 9404	M/C TERMINAL SOCKET
	OR 610 013 9404	M/C TERMINAL SOCKET
NO.2	610 013 9442	MINI CONNECTOR 1P-SOCKET
	OR 610 013 9442	MINI CONNECTOR 1P-SOCKET
Q901-1	610 003 1722	CG PURITY MAGNET
	OR 610 004 3008	CG PURITY MAGNET
Q901-2A	610 117 0154	DY SPACER-D4AK
	OR 610 116 5075	DY SPACER-B2ME
Q901-2B	610 117 0154	DY SPACER-D4AK
	OR 610 116 5075	DY SPACER-B2ME
Q901-2C	610 117 0154	DY SPACER-D4AK
	OR 610 116 5075	DY SPACER-B2ME
SP901	610 055 6614	SPEAKER
W1	610 027 0336	CORD
	OR 610 027 0336	CORD
⚠W901	610 011 7068	AC CORD
W902	610 024 2081	GROUNDING CONNECTOR
	OR 610 024 2159	GROUNDING CONNECTOR
W903	610 023 7711	CORD
Z1	610 082 4966	GROUNDING SPRING-BGAP
	OR 610 082 4966	GROUNDING SPRING-BGAP
Z901	610 205 0448	LOOP ANTENNA

IC701

ON-SCREEN BLANKING OUTPUT	1 OUT (0.1V)	Vcc (5V) 42	+5 volts Supply
ON-SCREEN (NOT USED) DISPLAY OUTPUT	2 B	OSC2 (0.4V) 41	ON-SCREEN DISPLAY OSCILLATOR(5MHZ)
ON-SCREEN BLANKING OUTPUT	3 G (0.03V)	OSC1 (0.5V) 40	
	4 R	Hsync (4.5V) 39	ON-SCREEN DISPLAY(ACTIVE:LOW) HORIZONTAL SYNCHRONISATION PULSE.
TV/AV MODE OUTPUT (H:TV L:AV MODE)	5 P4 (5V)	Vsync (5.4V) 38	ON-SCREEN DISPLAY(ACTIVE:LOW) VERTICAL SYNCHRONISATION PULSE.
	6 P62 (5.4V)	P21 37	TEXT CONTROL (DATA OUTPUT)
RESET INPUT (ACTIVE:LOW)	7 RESET (5.4V)	P20 36	TEXT CONTROL (CLOCK OUTPUT)
AFT SIGNAL INPUT (NOT USED)	8 P51 (..5V)	X OUT (2.4V) 35	SYSTEM CLOCK OSCILLATOR (4MHZ)
TIME BASE INPUT	9 P50 (4.4V)	X IN (2.3V) 34	
VOLUME CONTROL OUTPUT(ACTIVE:HIGH)	10 VDP0 (0.2V)	P61 (2.9V) 33	SKEW OUT PUT (H:OFF L:ON)
COLOUR CONTROL OUTPUT(ACTIVE:HIGH)	11 VDP1 (4.7V)	P12 (2V) 32	BAND OUTPUT
BRIGHTNESS CONTROL OUTPUT(ACTIVE:HIGH)	12 VDP2 (4.4V)	P11 (0V) 31	
CONTRAST CONTROL OUTPUT(ACTIVE:HIGH)	13 VDP3 (10.3V)	P10 (5.5V) 30	
REMOTE CONTROL INPUT(ACTIVE:LOW)	14 P53 (5.4V)	P03 (0V) 29	KEY SCAN & SYSTEM CHANGE OUTPUT
OVER LOAD DETECT (L:WRONG)	15 P60 (5.4V)	P02 (0V) 28	
AFT ON/OFF (H:OFF, L:ON)	16 P70 (0V)	P01 (0V) 27	KEY SCAN OUTPUT (ACTIVE:LOW)
POWER ON/OFF (H:OFF, L:ON)	17 P71 (0V)	P00 (0V) 26	
	18 P72 (0V)	P33 (5.4V) 25	
GND	19 TEST (0V)	P32 (0.6V) 24	KEY SCAN INPUT (ACTIVE:LOW)
TUNING VOLTAGE OUTPUT	20 D/A (4.4V)	P31 (5.4V) 23	
GND	21 Vss (0V)	P30 (5.4V) 22	

Q701	
	VOLT.
B	0V
C	5.4V
E	0V

Q721	
	VOLT.
B	4.6V
C	5.2V
E	5.3V

Q731	
	VOLT.
B	0.03V
C	7V
E	0V

Q732	
	VOLT.
B	0.7V
C	0.06V
E	0V

Q733	
	VOLT.
B	0.7V
C	0.03V
E	0V

Q741	
	VOLT.
B	0.15V
C	0.1V
E	0.9V

Q742	
	VOLT.
B	0.17V
C	12V
E	12V

Q751	
	VOLT.
B	0.03V
C	7.2V
E	0V

Q785	
	VOLT.
B	0.5V
C	4.6V
E	0V

Q792	
	VOLT.
B	0V
C	11V
E	0V

IC171
1. 11.5V
2. 5V
3. 0V
4. 0.1V
5. 7V
6. 7.4V
7. -
8. 7.5V
9. 15V

Q641	
	VOLT.
B	0V
C	100V
E	0V

Q601	VOLT.	WAVEFORM
B	6.6V	4.2VP-P HORIZ.
C	94V	100VP-P HORIZ.
E	6.4V	.....

Q611	VOLT.	WAVEFORM
B	6.6V	4.2VP-P HORIZ.
C	98V	100VP-P HORIZ.
E	6.4V	.....

Q621	VOLT.	WAVEFORM
B	6.6V	3.7VP-P HORIZ.
C	97V	103VP-P HORIZ.
E	6.4V	.....

MAIN UNIT E2JC
UE2101

CRT UNIT E2JC UE2103

TELESCOPIC AERIAL
ET0137

IC101
LA7686
VIF·SIF·VIDEO·CHROMA·DEF·SYNC&LF

IC451 LA7637
VERT. DEFLECTION

IC801
LC40668
HC14066B
LM1881M
LC40668C
LC40668F

IC171 AN5265
DC VOLUME CONTROL
AUDIO OUTPUT AMP
MUTE

IC701
AC1468A
CK43500N4-623SP3
CPU

IC801
1 2.8V
2 1.5V
3 1.3V
4 2V
5 0.1V
6 0.1V
7 -
14 12V
13 0V
12 12.5V
11 2.6V
10 2.8V
9 0V
8 3.7V

IC451
1 9.2V
2 4.8V
3 4.8V
4 4.8V
5 0.5V
6 4.8V
7 4.6V
8 23.5V
9 1.8V
10 1.5V
11 -
12 15V
13 24V

6Vp-p Vert.
1.5Vp-p Vert.
43Vp-p Vert.

IC101
1 3.6V
2 6V
3 4.6V
4 5.8V
5 4V
6 -
7 4.8V
8 4.8V
9 6V
10 7V
11 9.3V
12 6.7V
13 9.2V
14 5.7V
15 7V
16 5.8V
17 6.2V
18 3.4V
19 4.8V
20 3.5V
21 5.5V
22 5.5V
23 5.5V
24 4.5V
48 5V
47 5V
46 4V
45 5V
44 5.4V
43 7.2V
42 3.5V
41 6.2V
40 4.8V
39 5.6V
38 1.8V
37 8.6V
36 2.8V
35 4.4V
34 -
33 7V
32 4.8V
31 0.4V
30 7.4V
29 5.8V
28 5.2V
27 0.8V
26 0.6V
25 7.7V

Q511	
	VOLT.
B	10V
C	-0.8V
E	10.8V

Q512	VOLT.	WAVEFORM
B	-2.7V	1.1VP-P
C	-1.5V	1.5VP-P
E	0V	.....

Q513	VOLT.	WAVEFORM
B	-1.5V	5Vp-p
C	280V	560VP-P
E	0V	.....

Q551	
	VOLT.
B	23.5V
C	24V
E	24V

Q552	
	VOLT.
B	0.7V
C	0.1V
E	0V

Q553	
	VOLT.
B	7V
C	40V
E	6.5V

Q110	
	VOLT.
B	10V
C	12V
E	9V

Q101	
	VOLT.
B	1.2V
C	0.4V
E	4.2V

Q124	
	VOLT.
B	2V
C	0V
E	2.8V

Q241	VOLT.	WAVEFORM
B	4.6V	4.0VP-P HORIZ.
C	1.2V	.....
E	5.3V	5.2VP-P HORIZ.

Q801	
	VOLT.
B	2.7V
C	12V
E	2V

Q802	
	VOLT.
B	6.6V
C	12V
E	6V

Q810	
	VOLT.
B	0.06V
C	12.5V
E	0V

Q431	VOLT.	WAVEFORM
B	0.08V	2.1VP-P HORIZ.
C	19V	40VP-P HORIZ.
E	0V	.....

Q432	VOLT.	WAVEFORM
B	2.3V	1.4VP-P HORIZ.
C	80V	100VP-P HORIZ.
E	2.4V	1.2VP-P HORIZ.

SERVICE PRECAUTION:
THE AREA ENCLOSED BY THIS LINE (- - - -) IS DIRECT-CONNECTED W/ THE MAINS VOLTAGE. WHEN SERVICING THE AREA, CONNECT AN ISOLATING TRANSFORMER BETWEEN TV RECEIVER AND AC LINE TO ELIMINATE HAZARD OF ELECTRIC SHOCK

SANYO

COLOUR TELEVISION
A3 CHASSIS SERIES
SERVICE REF.NO. **CBP3012-00**

E2JC

PRODUCT SAFETY NOTICE

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. COMPONENTS INDICATED BY A MARK ⚠ IN THIS CIRCUIT DIAGRAM SHOW COMPONENTS WHOSE VALUE HAVE SPECIAL SIGNIFICANCE TO PRODUCT SAFETY. IT IS PARTICULARLY RECOMMENDED THAT ONLY PARTS SPECIFIED ON THE PARTS LIST OF SERVICE MANUAL BE USED FOR COMPONENTS REPLACEMENT POINTED OUT BY THE MARK

CIRCUIT DIAGRAM NOTES;

1. ALL RESISTANCE VALUES ARE IN OHMS: K=1,000, M=1,000,000.
2. ALL RESISTANCE RATED WATTAGES ARE 1/4W UNLESS OTHERWISE NOTED.
3. EXCEPTING ELECTROLYTIC CAPACITORS, ALL CAPACITANCE VALUES OF LESS THAN 1 ARE EXPRESSED IN UF, AND MORE THAN 1 ARE IN PF. ELECTROLYTIC CAPACITANCE VALUES ARE IN UF.
4. ALL CAPACITANCE RATED VOLTAGES ARE 50V UNLESS OTHERWISE NOTED.
5. ALL INDUCTANCE VALUES ARE IN UH.
6. VOLTAGE READINGS TAKEN WITH A "4TVM" ARE FROM POINT INDICATED TO CHASSIS GROUND. VOLTAGE READINGS TAKEN BY USING A COLOUR BAR SIGNAL ARE WITH ALL CONTROLS AT NORMAL AND AFC SWITCH IN "OFF" POSITION. SOME VOLTAGES MAY VARY WITH SIGNAL STRENGTH.
7. WAVEFORMS WERE TAKEN WITH COLOUR BAR SIGNAL AND CONTROLS ADJUSTED FOR NORMAL PICTURE. WAVEFORMS WERE TAKEN BY USING A WIDE BAND OSCILLOSCOPE AND A LOW CAPACITY PROBE.
8. VOLTAGE AND WAVEFORM VALUES OF TRANSISTORS IN THE AREA ENCLOSED BY LINE (- - - -) ARE MEASURED TO BASE THE ELECTRIC POTENTIAL AT PIN 3 OF T311.
9. THIS CIRCUIT DIAGRAM COVERS A BASIC OR REPRESENTATIVE CHASSIS ONLY. THERE MAY BE SOME COMPONENTS OR PARTIAL CIRCUIT DIFFERENCES BETWEEN THE ACTUAL CHASSIS AND THE CIRCUIT DIAGRAM.
10. EXPRESSION OF CAPACITANCE AND RESISTANCE IN CIRCUIT DIAGRAM

CAPACITANCE (Example)
1000 C M 2200 Q
- Characteristic
- Capacitance value (2200pF)
- Allowable error (±20%)
- Kind (Ceramic) — T, A, E, U, D: Electrolytic; C, K, B: Ceramic; F: Mylar film; M, N: Polypropylene; Z: Metalized paper
- Rated voltage (1000V)

RESISTANCE (Example)
1/2 N J 1.2
- Resistance value (1.2Ω)
- Allowable error (±5%)
- Kind (Metalized carbon) — D: Carbon; N: Metalized carbon; S: Oxide metal-red; W: Wire wounding; C: Solid
- Rated Wattage (1/2W)

J	±5%
K	±10%
M	±20%

11. DIODE 1SI555 MAY BE REPLACED WITH 1S2473, 1SZ076 OR DS482 UNLESS OTHERWISE NOTED.
TRANSISTOR 2SC536 (E,F,G) MAY BE REPLACED WITH 2SC1740S (Q,R,S), 2SC1740 (Q,R,S), 2SC945A (Q,R,P) OR 2SC1815 (G,O,Y) UNLESS OTHERWISE NOTED.
TRANSISTOR 2SA608 (E,F) MAY BE REPLACED WITH 2SA933 (Q,R), 2SA564 (QA,RA) OR 2SA1015 (O,Y) UNLESS OTHERWISE NOTED.

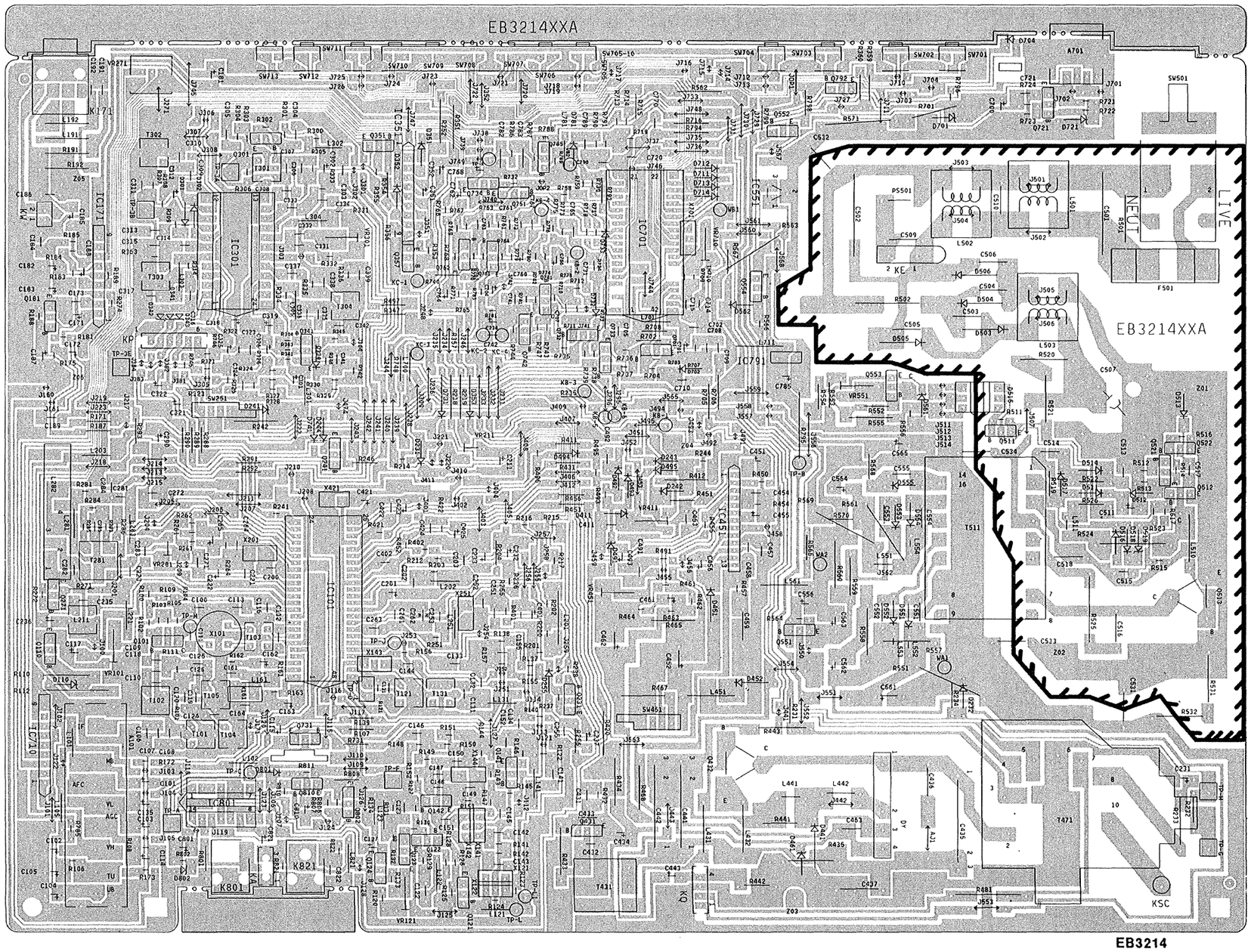
TRANSISTOR, DIODE & INTEGRATED CIRCUIT TERMINAL GUIDE

C: COLLECTOR
B: BASE
E: EMITTER
A: ANODE
K: CATHODE

PARTICULAR PARTS SYMBOL

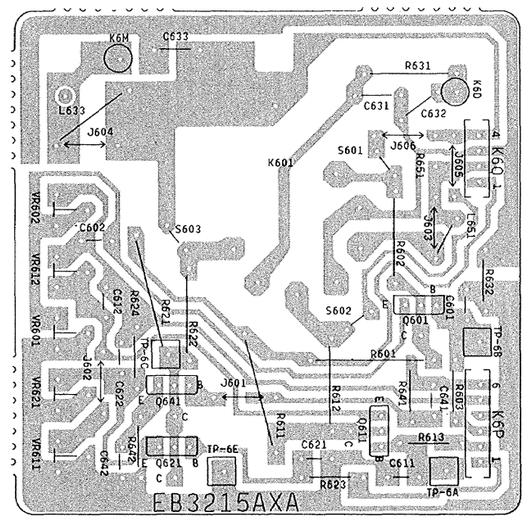
FUSIBLE RESISTOR
NON-POLE ELECTROLYTIC CAPACITOR
POSISTER

MAIN BOARD (CIRCUIT SIDE)



EB3214

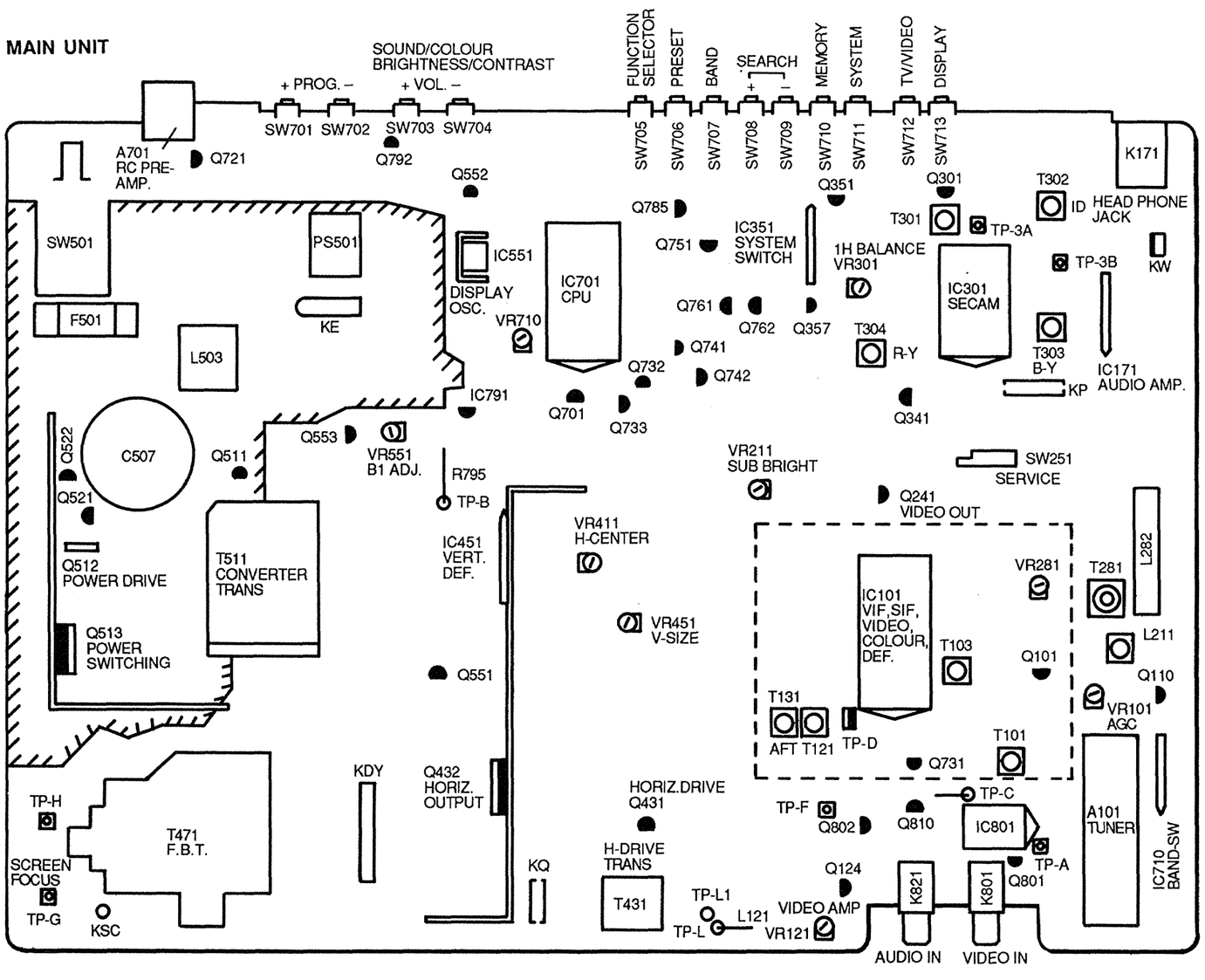
CRT BOARD (CIRCUIT SIDE)



EB3215A

COMPONENT LOCATION

MAIN UNIT



CRT UNIT